



# Mexico

ITS SOCIAL

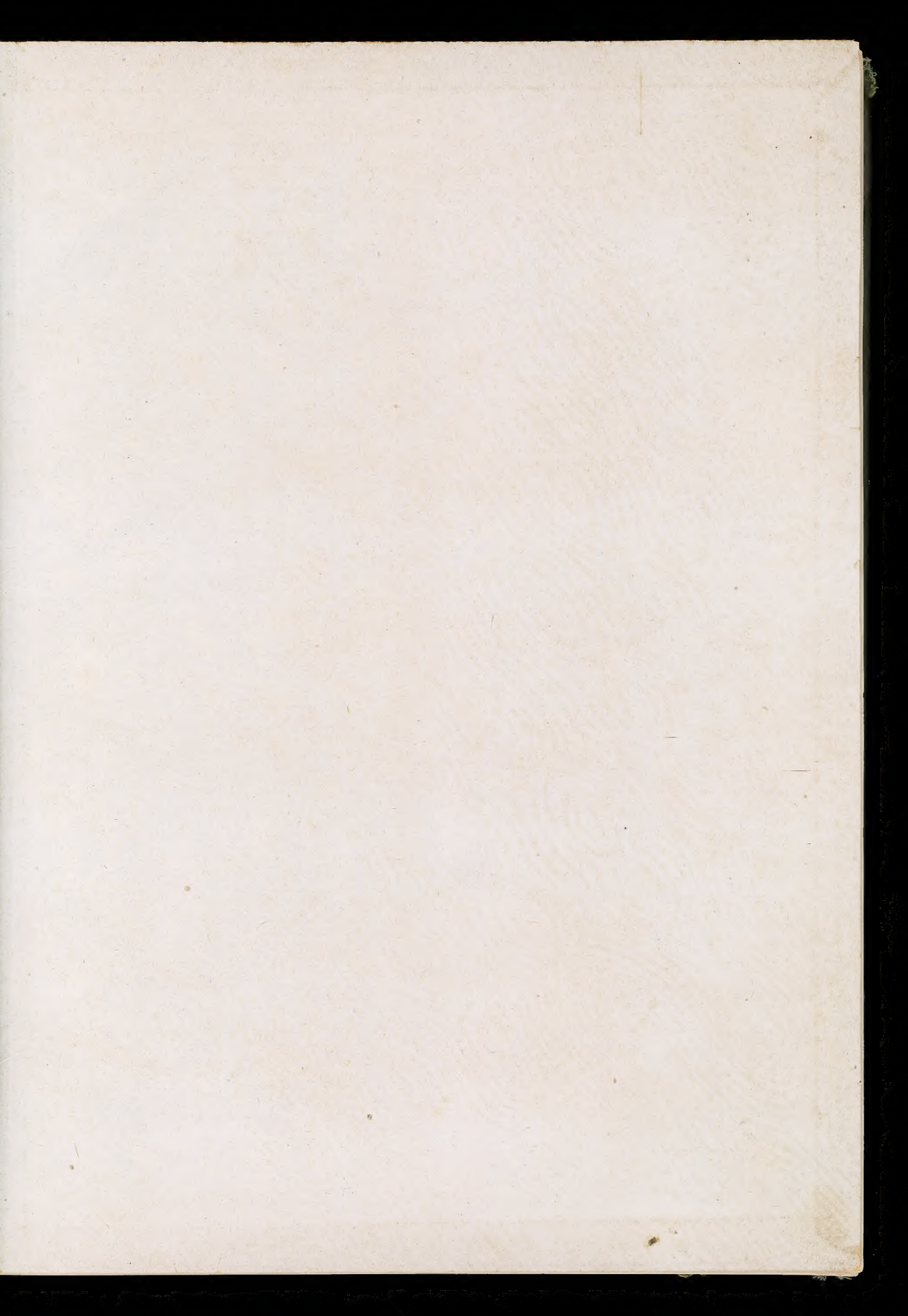
EVOLUTION

Balleseá - Editor



















UNIVERSITY OF CHICAGO



# Mexico

ITS SOCIAL EVOLUTION



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# MEXICO

## ITS SOCIAL EVOLUTION

SYNTHESIS OF THE POLITICAL HISTORY, ADMINISTRATION, MILITARY ORGANISATION AND ECONOMICAL STATE  
OF THE MEXICAN CONFEDERATION; ITS ADVANCEMENTS IN THE INTELLECTUAL SPHERE; ITS TERRITORIAL STRUCTURE  
GROWTH OF ITS POPULATION, MEANS OF COMMUNICATION BOTH NATIONAL AND INTERNATIONAL; ITS ACHIEVEMENTS IN THE FIELDS  
OF INDUSTRY, AGRICULTURE, MINING, COMMERCE, ETC., ETC.

MONUMENTAL INVENTORY  
SUMMING UP IN MASTERLY EXPOSITIONS THE GREAT PROGRESS OF THE NATION  
IN THE XIX CENTURY

WRITTEN BY

AUGUSTIN ARAGON, ENGINEER.  
GILBERT CRESPO Y MARTINEZ, ENGINEER.  
EZEKIEL A. CHAVEZ, LICENTIATE.  
CHARLES DIAZ DUFÜO, DEPUTY.  
MICHAEL S. MACEDO, LICENTIATE.  
PAUL MACEDO, LICENTIATE.

PORPHYRIUS PARRA, M. D.  
JANUARIUS RAIGOSA, LICENTIATE.  
GENERAL BERNARD REYES.  
EMMANUEL SANCHEZ MÁRMOL, LICENTIATE.  
JUSTUS SIERRA, MAGISTRATE.  
GEORGE VERA, LICENTIATE.

AND JULIUS ZÁRATE, MAGISTRATE.

LITERARY EDITOR:

LICENTIATE JUSTUS SIERRA

ARTISTIC EDITOR:

JAMES BALLESCÁ

Translated into English by G. SENTINÓN

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AUTHORS OF «MEXICO—ITS SOCIAL EVOLUTION»

**Paul Macedo**

MEMBER OF THE HOUSE OF REPRESENTATIVES

**Gilbert Crespo y Martínez**

ENGINEER

**Genaro Raigosa**

SENATOR

**George Vera Estañol**

LICENTIATE

**Charles Díaz Dufío**

MEMBER OF THE HOUSE OF REPRESENTATIVES













PART FIRST

AGRICULTURAL EVOLUTION

VOL. II — 2.



## CHAPTER FIRST

GENERAL CHARACTERS OF THE CIVILISATION OF THE PEOPLES OF ANAHUAC  
AT THE END OF THE PRECORTESIAN EPOCH. INFLUENCE OF THE MEDIUM IN THE TRANSITION FROM  
THE NOMAD TO THE PERMANENT STATE SYSTEM OF AGRICULTURAL LABOUR

**B**EFORE cultivating their minds, before thinking of shelter against bad weather by means of clothes and dwellings men needed provide for their very subsistence taking it out of the flora and fauna less remote from their reach and more adequate to their instincts. The spontaneous production of the surrounding medium has been the first form of subsistence; but as the medium varies, as the produce of the water and the land alternate, disappear or get modified, it is to this diversity which constitutes nature's dynamism we owe the variety of the modes of obtaining food, the form of the exertion and of the instrument needed to get it and consequently the distinct cooperative organisation of the primitive human groups whence the social systems have derived by a slow evolutive action.

Thus, the process of the biological law of *adaptation to the medium* sufficiently explains the formation of ethnical nuclei more and more differentiated from one another by dint of continuous migrations, but wherein the characteristic qualities of their classification in races persist through the static and sometimes retrogressive tendency of heredity, to limit to a rather speculative than practical ground the question of knowing whether the American aboriginal tribes are an autochthonous variety of the zoological genus *Homo* or whether they derived from the large mongolic (1) and polynesian families transplanted to the Colombian continent in epochs inaccessible to history and by ways difficult to be determined with precision in the modern configuration of the planet.

Whatever, therefore, the remote origin of those tribes may be, it seems to be a fact that the immediate centre of their exodus towards the South was the country of the *mound-builders* on the banks of the Mississippi, the motives for the departure being: 1, the great inundations caused by the thaw when the glacial zone withdrew towards the pole at the end of the quaternarian epoch (2); and 2, the needs of subsistence of nomad, hunting and warrior groups not allowing the permanence of large masses on a limited territory.

The entrance of those tribes on the Mexican tableland must have been effectuated through the natural passes offered by the slopes of the branches of the Andes chain which after transpassing on the South the Isthmian region of the Continent splits into two large arms that sustain the Central plateau, the one running along the outline of the Gulf and the other following the basin of the Pacific sea, as far as the

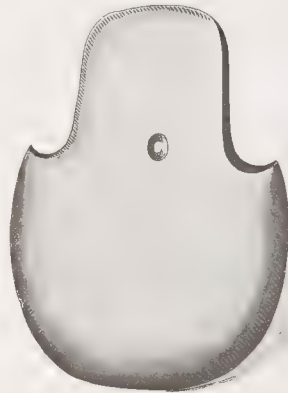
(1) The orientalist is every day finding surprising coincidences between the American and the Asiatic tribes. The ruins of Uxmal, of the Palenque and of Mitla reveal notable tokens of the worship of Buddha. The Chinese historian Ma-Tuan-Sin who wrote in the times of the Liang dynasty, relates the visit made by several priests of Buddha to a large country called Fusú or Fusang where a plant grows whose description coincides with that of the *magwey* or Mexican agave. One of those priests, Hui-Shen-Biksu, who was the only one that returned from the expedition, seems to have left a track of his voyage in the Aztec tradition of Huitzipecoch or Quetzal-coatl. The large Palenque idol, Chaac-mool, besides reproducing the classical figure of Buddha, resembles an echo of one of his names, *Sacca-moni* (Sakyamuni). The same word *Sacca* that corresponds to the race of the God, is often to be found in the indigenous languages: Zaca-tecos, Zaca-tepec, Zaca-pula, Zaca-poaxtla, and *Guatemala* (Gautama), another of Buddha's patronyms, does not sensibly differ from *Guatemala*, *Cuariktemoc*, *Huatamo*, etc. The Buddhistic cross of the Palenque, the architecture of pyramidal base, the mosaics of meanders linked at right angles, the calendar, etc., etc., offer strongly marked analogies with the Mongolian pagodas and monuments.

(2) The Aztecs state the tradition of the Deluge in their hieroglyphics.

United States territory where it forks into the chains of the Rocky mountains and Sierra Nevada; and those migrations being continuous, from prehistoric times up to the x century of our era, every new invasion could not but be a war of conquest on the groups settled before, in order to subject them to the yoke of submission and tribulation or to a gradual extermination.

This artificial medium of relations of a political order created between the peoples of Anahuac and persisting until the beginning of the xvi century, together with the new climatic and topographic conditions of the natural medium occupied by the invaders, exercised a deep and preponderant influence on the character of Anahuac's civilisation such as it was found by the Spaniards at the epoch of the conquest, rendering it not only different from the so called «occidental» civilisation at the same historical period, but different also from that of other regions of the Continent, among races derived from the same ethnic nuclei.

At once we note the absence of any national link to maintain those various human groups united under any form of collective organism. The Mecs, Otomís, Toltecs, Tarascs, Zapotecs, Maya-kichés, Acolhuas, Teopanecs, Tlaxcaltecs, Aztecs or Meshics resembled human stratifications placed beside or above one another, at the direct ratio of their penetration into the territory rather than distinct members of a same structure wherein they performed the functions of vital cooperation whence an autonomous and robust complex might result. The last comers became the first in power, not by absorbent assimilation, but by a pitiless suction of the energies of the submitted, so much so that the aspect of that superposition of races was that of a colossal parasitism wherein the conqueror's hegemony was sustained and nourished at the expense of the tributaries' sap by a system of infinite extorsions and a ferocious military empire. Hence the universal hatred accumulating in the bosom of the masses violent explosives that only waited for a shock hard enough to convert into rubbish, into sundered atoms, those multitudes maintained in apparent cohesion by the sheer terror of the armed force.



Agricultural implement of the *mesquite* builders

That sociological state of external relations based on force and exclusively sustained thereby, needed to have for its interior foundation an artificial hierarchical subordination that might convert the composing elements of each group into tactic unities of combat and domination, out of which necessity the *castes* arose and with them the strict progressive dependency which, starting from the absolute authority of the supreme chief, was imposed by means of the priests, nobles and caziques on the common people extorsioned by all at the last end, but maintaining in its turn, in the complex of the tribe, the aspect of a compact impenetrable and imposing mechanism. Thus to the general exterior parasitism by which the Meshi and their allies reaped the other groups that peopled Anahuac, there corresponded the interior parasitism whereon their inner government system was founded; a *parasitism* which, in sum, converted the popular masses into herds of tributaries and forced servants of the superior castes (1) without proper rights or the least idea of personal value.

The climatical and topographic conditions of the territory where that system was developing singularly favoured its vitality; for the mountainousness and elevation of the soil over the level of the sea in

(1) «Among the Aztec monarch's feudatories there were thirty each of whom had about one hundred thousand vassals and something like three thousand caziques with a lesser number of subjects.» SPENCER: *Industrial institutions*, chapter XVI.

the most densely peopled regions, the aridity and dryness of the large plains, the scarcity of sources, the unequal distribution of rains and the torrential precipitation of the scanty rivers, rendered difficult the normal and pacific communications, hazardous the means of subsistence derived from hunting and fishing, insufficient the spontaneous fruits of the land and excessively toilsome and uncertain the cultivation of a wild country, full of swamps or forests with ferocious and mortiferous beasts. Thus, war was to be the natural way of providing for the necessities of life and those tribes, those groups, spread over the territory, were essentially warriors. War was waged to submit the vanquished to tribute, to deprive them of their crops and riches, to get slaves for the rough toils of tillage, transport and corporal labour and at times even to satiate the hunger of the vanquishers with the bodies of the prisoners ferociously immolated on the altars of their gods.

The lack of beasts of burden and domestic animals suppressed in the evolution of the aborigines the *pastoral period*, called to exercise so powerful an influence on the Indo-European civilisation; so that, when the growth of the population obliged to found permanent settlements and to ask the ground for the supply of means of subsistence, unsatisfactorily furnished by hunting and fishing, by the spontaneous produce or the tribute of the conquered, agriculture, as a social institution, did not derive out of the patriarchate as a progress nor was it founded on the feeling of individual property of the land nor had it for aids in the waste of live force or as a reserve of food for the labourer, the docile and strong, ox and horse, the milkgiving cow and the woolyielding sheep, but only the arm and claw of man forced by the cazique's despotism to struggle in common against the hard soil, the impenetrable forest, or the thorny and refractory briers. The ignorance of iron and its use disarmed the hand against nature's hostile resistance and the crop must be pulled out of the ungrateful soil actually soaked with the sweat and blood of the crowds doomed by hard slavery to the sacrifice of agricultural labour. And as without communication roads, means of transport, common money, differentiated industries, all being similar, rudimentary and reduced to the transformation of some raw materials by force of arm or by fire or with the aid of flint or obsidian implements (neolithic epoch), inland commerce, lacking food and stimulus, must needs be reduced to simple and insignificant bartering in specie and outer commerce was a mere pretext for political spysm without elements to become a creator and promoter of pacific relations and reciprocal interests between the tribes in perpetual hostility; it was but natural and logical that the strange civilisation of the aborigenes of Anahuac was characterised as divergent from the contemporary European culture by its profound deficiencies and radical vices rather than by its impulsive conditions for the advancement and benefit of the human species.

However, those deficiencies and those vices that so deeply impress their character on the indigenous evolutive period and which by dint of the sudden interference of the white man got petrified in the race as the first stupefying result of the conquest, are still now, after four centuries, one of the keys, and perhaps the main one, of that not yet satisfactorily solved riddle of the tenacious resistance the descendants of those primitive people oppose to all the fluxes of our present civilisation.

The cultivation of the land by forced and unremunerated labour, the distribution of the crops based on the obligation to consign the main part as a tribute for the supreme chief and the remainder for the superior *castes*, the absence of any idea of private property of the ground and hence the lack of interest of the labourer or ploughman in the results of the farming, deprived indigenous agriculture of the chief stimuli for advancement, maintaining it stationary, improvident, abandoned to chance and necessarily so paltry and deficient (1) that misery and hunger, sometimes for consecutive years, left deep tracks in the

(1) According to the book of tributes paid to Motecuhzoma in 1518 (Sahagun) indigenous agriculture was reduced to the following articles of general consumption:

Tlaoli. . . . .	Maize.
Iccl. . . . .	Dwarf kidney-bean.
Chilli. . . . .	Chilli.

The spontaneous produce of the soil, the regional fruits, certain alimentary roots and some pulse cultivated in



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AGRICULTURE

**State of Morelos. — Estate of Atlacomulco**

SETTLED BY THE CONQUEROR FERNAND CORTÉS









historic annals of those tribes, as it happened regarding the terrible calamities that came to pass during the reigns of Topiltzin and of Motecuhzoma Ilhuicamina. It is difficult to understand to-day, with our ideas about the organisation of work, how so rude and imperfect a mechanism to supply the subsistence of considerable masses of human beings was able to function with regularity and for centuries as the main prop of viable and vigorous aggregates.

The Roman colonists, it is true, paid the empire heavy tributes; but they enjoyed certain rights upon the cultivated fields and could dispose of the remnant of their crops for the needs of their own lives. The negroes subjected to slavery by the Europeans, got no remuneration for their forced labour in the plantations; but their master was obliged to care for their food, their dress and their dwelling; and the masters being the owners of the soil and its produce, the fortunes acquired by the sale thereof gave the institution of slave labour a broad base of firmness and agriculture a strong progressive impulse. But in the mechanism of the indigenous rural work there were no particular undertakers to gather the benefits of the working and to accumulate wealth thereby, nor had the labourer any right to be remunerated, clad and fed and still less to claim an equal sharing of the fruit's obtained by the group's common labour. As the countryman of to-day cuts the honey-combs of his bee-hives heedless of the laborious bees that have passed months elaborating them, so the Indian noblemen, warriors and priests, collected the fruit of the labour of the multitudes forced to pay that *rent for life*, so naturalised in the tradition of the race, so deeply stuck in the abyss of time, so confirmed by religious doctrine and authoritative sanction that it had become a prerogative inherent to the *caste* and the chieftain. Therefore, the passive and unconditional submission of the popular masses under any mandatory considered as a superior being by nature, the almost fanatical devotion for the ruler deeming him endowed with an irresistible power and raised to a great height above the level of common mankind, impressed so deep a stamp on the character of the race that the feeling of individual responsibility never actually rose therein; the common personality was concentrated in the chieftain and the *unity of population* (nutritive red corpuscle instead of an energy producing nervous cell) was formed with inert atoms dragged on by the action of superior forces, like the supreme law of an inexorable Destiny. When Conquest passed the levelling strickle of slavery over the vanquished destroying the hierarchies of the old castes, the mass of the people recovered their systematic inertness, thus fatally beginning the process of complete disintegration and retrogressive evolution.

Kitchen gardens and *chinampas*, completed the complex of the nutritive elements turned to profit by the Indians, although strictly speaking they cannot be comprised among the properly so called agricultural produce. Such were the following:

Papaloquelitl.	Papaloquelite.	Tomatl.	Tomato.
Quilitl. . .	Quelite.	Xaltomatl.	Jaltomate.
Tzillacayotl. .	Bottle gourd.	Xocoxochitl	Pepper.
Iepatzotl.	Epazote.	Chilli.	Chilli.
Izmiquilitl.	Purslane.	Chiltecpin.	Chiltepiquin.
Cacomitl.	Cacomite.	Chian.	Lime leaved sage.
Camotl. . .	Sweet potato.	Cacahuahuatl.	Cocoa.
Guanheamotl	Huacamote.	Talcacahuatl.	Peanut.
Chayotl. . .	Cucumber.	Metl. . . .	Maguey.
Tlixochitl. .	Vanilla.	Nopale.	Nopal.

## CHAPTER II

THE COLONIAL PERIOD. RESULT OF THE CONFLICT OF THE TWO CIVILISATIONS.  
 PREPONDERANCE OF MINING. STAGNATION OF AGRICULTURE. DIVERGENT EVOLUTION OF THE GREAT  
 COLONIAL FACTORS. INCREASING SUPREMACY OF THE CLERICAL ORGANISM WITHIN  
 THE CIVIL POWER. GENERAL STATE OF AGRICULTURE AT THE BEGINNING OF THE XIX CENTURY.  
 EMANCIPATION OF THE COLONY

**T**HE colossal adventure realised by a handful of Spaniards at the commencement of the third decade of the XVI century would have been absolutely impossible if the sociological state of the indigenous population had allowed leaning the resistance on the base of a halfways consolidated national organism. But, as we have just shown, the perpetual hostility of the diverse tribes in their outer relations and even the inner mechanism of each aggregate in an atomic mass seemingly compact, were held together by force as their unique element of adhesion and equipoise and therefore, the accession of a foreign factor working as a perturbing and disintegrating cause, must favour the violent outburst of the ferment of hatred and rivalry hatched for centuries and accelerate the complete decomposition of the system into a precipitate of residues without the least consistency. The conqueror cleverly turned to profit that effervescence of rancour and when the sacred town of the Meshi fell down under the push of the Indian multitudes cast by him against the abhorred Aztecs, nothing was able to contain the dissolution of those human aggregations over whose scattered and crumbled components there rose, domineering and irresistible, the rigid military, political and theocratical organism transplanted from catholic and monarchic Spain to the mysterious and immense regions disclosed for the old world by the stupendous boldness of Cortés.

The work of blood being terminated by the submission of the aboriginal tribes the two civilisations remained face to face and the grand task of social reconstruction that was to produce as result the nationality of to-day, must needs be modelled upon the divergent tendencies and heterogeneous elements of the two races brought into contact, the one pushing on, the other tenaciously resisting; but both subject to the slow transformations of the natural medium, to the necessary and unavoidable crossings and to the distant action of the metropolitan mass, a sometimes inefficacious but always active directress of the colony's evolution.

The first measure taken by the conquerors to assure their domination was a transcendental one, for the distribution of the Indians like a human live stock, like beasts of burden, like mere implements of labour for the benefit of the chief and the soldier, without any responsibility or limitation set once more the new regime on the base of the old rancour and hatred; and although later on the religious institutions and the commendams mitigated the slavery of the vanquished and a part of the indigenous population could live in relative freedom, forming miserable communities isolated from one another, the separation of races, after the fashion of the primitive castes, placed on one side all the extorted and on the other the extortioners. Since then, an abyss gaped between the two civilisations destined by reason to interpenetrate one another and the Colony assumed the aspect of a huge mechanism of manufacturing personal fortunes and revenue for the Crown between whose wheels the census of the submitted was most swiftly becoming decimated and their energies blighted.

The evangelic zeal of the missionaries contrived to prevent the complete extinction of the race and tried to sweeten the work of the sword by infiltrating into the souls of the oppressed resignation and hope, by means of a patient work of education supported by the teaching of the christian religion.

In this way the monk was the natural mediator between the Spaniard and the Indian, and his bene-

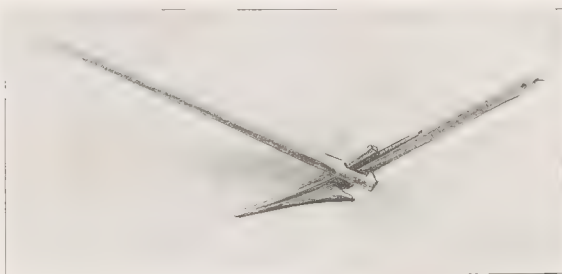


ficient influence in defence and on behalf of the latter, not only won for him his permanent tutelage supported by legal sanction, but contributed more than force itself to consolidate the conquest on lasting bases, because it became the organ by which the civilising elements brought by the white man could penetrate to the bottom of the masses and it was possible to store up the materials for the future bridge destined to get over the abyss opened by the primitive ferocity of the conquerors. The monk's work would had been greater than the very epopee of the army of Cortés, had it not lamentably degenerated later on and had the expansion of its effect not been restrained and lessened from the very beginning by the absence of one of the most fecund educators of mankind: the home, and above all, woman.

Indeed, in the crossing of the races in contact only the male Spanish element intervened. The indigenous woman, treated as a female, victim of all the violence and all the whims of the white man, her despotic and irresponsible lord and master; degenerated to the limits of a submissive animal passively resigned to suffer the tyranny of the genetic function; instrument, rather than agent, of a new race that ought to be the intermedium between the oppressor and the oppressed, the uniting link between them and afterwards the genuine national race, she could not bring to the forced cross-breed, as predominant physiological elements, anything more than her own inertness and her stoicism of submissiveness and despised serf. And out of that mixture of the Spanish soldier's pride and haughtiness and the Indian woman's apathy and indolence there resulted the mestizo's character, sudden fits of briskness and long dullness, dazzling liveliness and incurable inconstancy, passionate ardour and almost thoughtless carelessness; a character which, unmodified by home education, but rather sharpened by the influences of the climate and the artificial medium, became fixed in the descendancy as typical of the new population.

Therefore, from the Colony's first decades, the lineaments of its future evolution became outlined, the steering of each of its general factors being clearly apparent. The European, covetous of riches and power, devoted himself specially to mining, to the administrative functions of the political order, to commerce and the acquisition of landed property; the mestizo to the small industries, small traffic, and the services of a private order that starting from domesticity rise to the habitual range of the occupations of the middle classes; the Indian relegated to the low bottom, reduced to be the common furnisher of gratuitous muscular force for all rough work, agricultural or mining, of burden or transport; and the monk and the priest, at last, elements now lubricating, now agglutinative and cohesioning of the others in exercise, to root slowly the future preponderance of a colossal organism in the very entrails of the civil power, by the continual absorption of the territorial wealth, the increasing dominion over the indigenous mass of which they possessed themselves at last as of their own thing, and the irresistible direction of the religious conscience of the dominant classes of the epoch.

The four big factors just mentioned obeying the distinct tendency of their own nature did not follow ways convergent to a well defined common aim, nor did they obtain the smoothing of the roughnesses of the surfaces put into contact in order to diminish resistencies and to turn obstacles, but abandoned to the haphazard of their own impulse they affirmed their heterogeneous and antagonistic individuality in a juxtaposition more and more divorced from the fundamental interests of an equiposed and vigorous organism. The Spanish nucleus, composed of adventurers and functionaries, never had the least idea of colo-



Ancient plough

nising, of transplanting to the new world a considerable part of his race, in order to develop it therein like an expansion of his motherland; his aim was to turn to account the vein of rapid fortunes and productive offices; and that nucleus being the dominant, the most active, the most tenacious, the most covetous and its integration being maintained with elements nourishing identic tendencies, the system called «colonial» took the definitive aspect of a parasitism for the benefit of the conqueror alone.

The political power of the mother-country that, just having triumphantly ended the long Arab war, found herself on a sudden in possession of immense dominions reputed of fabulous wealth to fill the exhausted coffers of her treasury; and with an inestimable derivation whither to draw off the excess of a vagabond soldiery dangerous by their idleness and wretchedness, she procured, above all, to maintain her new acquisition in the most complete isolation from all contact with other European peoples by so zealous and mistrustful a vigilance that it actually became a more efficacious wall than the Chinese one and to establish and settle her inner administrative system as an immense office of elaboration of revenue for the Crown and of profit for the commerce and industry of the dominating nation. With such aims, the system created in the Colony, besides centralising in the viceroy all the springs of the Government mechanism, obliged the mass of the people to live in an intellectual marasm; converted the offices and public charges, reserved for the peninsulars alone, into an object of traffic or of favouritism, based the economical administration on monopoly and privilege, protected incapacity and apathy opening for them an easy asylum in the offices and contributed in consolidating the exploitation, in the whole and in detail, of the land with its native peoplers as an immediate effect of the distant action of the mother-country's political body.

In such conditions it was natural, and it proved so, that the main aim of the combined energies of the inner domineering nucleus and the outward directing one should become preferently concentrated on the research and working of the metallic deposits which at that epoch were reputed «wealth by excellence.» Gold and silver was what the Spanish throne needed, gold and silver were sought after by the soldiers of Cortés, gold and silver were the incessant craving of all the peninsulars. Therefore, the metalliferous lodes were the centres of attraction around which they established the nuclei of the future towns and villages of the country following its orographic conformation but irradiating from the centre towards the circumference as the exploration expeditions went on discovering new workable deposits.

This preference for metallic thesaurisation absorbing all activities relegated agriculture to an inferior range among the impulsive agents of the prosperity of the Colony imprinting thereon, from its very origin, the stamp of a narrow dependency on mining whose mere tributary it was constantly to be. The slow and uncertain fruits of the cultivation of the ground, the difficulties and tardiness of the sale through the want of roads, the insufficiency of consumption and the impossibility of exportation were no conditions apt to rouse great interest in adventurous and fortune craving minds. The conquerors brought along with them not a retinue of tillers but of soldiers; therefore, agriculture was pursued only by those unfit for the feverish existence of mining workers; the unsuitable for public charges or the lazy and idlers who feeling no inclination for the discipline of the cloisters deemed commodious the life of a gratuitous master of a portion of land with its lot of slaves for his service. Thus, by effect of that depressive selection, the managing agricultural personnel was to be recruited at first among the offal of the peninsular population of the Colony. Later on, the Spaniard, enriched in the mine, was bying up the ground from affection for the traditions of his race that made thereof the source of the squires and the base of landowning nobility, so important by their influences in the high political spheres of Government and so much coveted for its privileges and franchises. And as legislation, by its entails and its majorats, favoured those tendencies towards the concentration of large properties transmissible undivided to the descendants in order to perpetuate the name of the family and to give it brilliancy and prestige, the craving for acquiring vaster and vaster possessions obeyed the instinct of aristocratic vanity rather than the stimulus to develop the great agricultural elements of the country by works proportionate with the extension of the acquired lands.

Thus, the currents of leading elements that ought to fecund and transform the retarded and deficient agricultural industry of the indigenes contributed to concentrate it and maintain it shut up in a few hands; abandoned to indolence and routine and therefore cohobated in its future organic developments by the initial incapacity of its principal promoters. The import of domestic animals and of the arabic plough, instruments of superior strength and work than the hardened wooden stake and the mere human muscular exertion, did not sensibly improve the methods of rural labour, as it was to be expected, either because during long centuries they remained out of the reach of the wretched indigenous population, being used only by the big landowners on the insignificant fractions they destined to cultivation in the surroundings of the villages and the Mining Settlements or because the abundance of the gratuitous labour of the native popular mass rendered this preferable to the investment of capital in the purchase and keeping of cattle and mechanical implements. So deeply did this preference for manual labour root in custom that it is still dominant in the common agricultural system of this country even to-day, in spite of the immense advance realised in the implements of work and in spite of all the demonstrations of the superiority and excellence of improved apparatus over the rude and rough primitive instrument.

This so imperfect distribution of landed property whose first effect was to disconnect the Indian from all love for his soil choking in him every idea of fatherland and breaking all future communion of interests between rulers and ruled, produced results of so much transendency in the course of time that they would suffice by themselves to explain the logical link-



Pyramidal Tusapan

ing of the events they prepared, not only the political phenomenon of the Colony's emancipation, but the new nationality's want of organic equilibrium, a lack that maintained her for longer than half a century in continuous inner convulsions and in constant peril of total disintegration. The land being monopolised in the hands of a small number of great proprietors, entails and majorats went on concentrating the same in one sole social class formed by peninsulars and creoles, primigenous sons of Spaniards whose education, according to the ideas of the epoch, was founded on despise of personal work considered vile and degrading, when retributed with money, for every well bred man and unworthy of a nobleman and a gentleman. The heir of the landed fortune gathered by his father ought not to stoop to occupy himself in the miseries of cultivation or in the industrial management of his woods and cattle, but, consecrated to the high life of the pleasures and luxury of the viceregal Court, would give over to mercenary hands the management of his patrimony and the care to provide for the necessities of his rank with the most ingenuous disdain of the trifles of his administration.

Colonial agriculture followed therefore the routine path of the mechanisms which not being impelled by an ever active force tend to maintain themselves in a state of inertia or repose opposing the intermittent and irregular movement that stimulates their function more and more considerable resistances and frictions.

The land being given over to the care of paltrily retributed managers without interests of their own



in the result of the working, the culture was reduced to the needs of local consumption and to the short list of food articles which the wretched state of the large mass of the population allowed to consider necessary for the merely organic life at its lowest level.

In each of those vast estates the part marked out for tillage was the smallest: most of the lands were left without cultivating, unproductive, desert, barren, for thousands of square kilometres, sometimes crossed by wild and mountainous cattle or by nomad groups of Indians rebel to the yoke of slavery and returned to their ancestral wildness and barbarity.

During the xvi century and part of the xvii the atony of agriculture in New Spain rendered sterile the exertions of the viceroys and the Crown to improve its conditions with new elements imported from other territories and with the practical teaching of special methods of cultivation (1). From Antony de Mendoza up to Lewis de Velasco, official activity was incessantly employed to endow the colony with every kind of cattle, seeds, fruits, pulse and industrial plants which the vast Spanish possessions could supply or their prosperous commerce throughout the globe was able to furnish. Thus they introduced into the country wheat, barley, rye, millet, lentils, rice, chickpea, sugar-cane, banana, vine, flax, hemp, mulberry, olive and all that immense variety of fruits, medicinal and fodder plants that complete the rich flora of this country.

But the decaying and ruinous state of agriculture allowed not to turn to profit so important additions to the production in a manner perceptible in the rise of the level of general wealth. The new cultivations were limited to single and small essays and the large landed property continued restrained to produce the fundamental articles of the indigenous food: maize and dwarf beans, with the accustomed stimulant.

Until Bartholomew de Medina's discovery to work the argentiferous ores forwarded the rapid development of mining by the establishment of vast industrial works for the treatment and depuration of the produce of the lodes, agriculture did not begin to rise from its decay and apathy.

The workable mine attracted considerable masses of rural people to its surroundings and opened a new market for the fruits of the field and the forest; roads and means of transport put it into commercial relations with farther districts and purveyed it in its turn with whatever the industries and manufactures of the inland and outland could supply at that epoch to any nucleus producing the craved for metallic merchandise which in universal opinion represented wealth.

With the mining prosperity and the settlement of more important urban populations, there became perceptibly accentuated the evolution of one of the great factors of the colonial mechanism, until then consecrated to consolidate the conquest by religious propagand. The missions of monks of divers orders had been the most efficient instruments of the pacification either as precursors of armed expedition or by establishing the practical teaching of arts, industries and crafts brought by the civilisation of the white man; around them the indigenous masses grouped like actual flocks of sheep dominated and seduced by the preaching and the example of doctrines and customs imbued with a strange meekness and a powerful suggestion. But at the same time as the rumour about the bonanzas attracted the multitudes towards the metalliferous veins, the missionaries and pastors of souls came in crowds to the new towns to excite the religious piety of those favoured by fortune moving them to found convents, churches and chapels which in a short time pullulated throughout the territory. That was the culminating epoch of the catholic faith in the Spanish dominions and therefore the most opportune historical moment to draw towards the splendour of the worship and towards the supporting of its ministers the current of donations, legacies, inheritances, aims and consignations which by little and little transformed the colonial Church into a vast accumulator of capitals in ready money and in urban and rural properties. And as besides the donations and foundations there were still the special ecclesiastical imposts, in form of parochial obventions, tithes and primitiæ, the pay of which was ineludible by dint of the support of the civil power and the reli-

(1) Royal schedules (decrees) of August 23<sup>d</sup>, 1538, June 13<sup>th</sup>, 1545, and January 12<sup>th</sup>, 1777.

gious excommunication, the affluence of so variant and fecund elements of forces and growth gradually modified the evangelic institution destined to the culture and improvement of the souls through their victory over the earthly adherences, until converting it into an institution engrossing all the large sources of worldly power.

The continuous accumulation of values in the hands of a corporation that distributes no dividends tends to rapidly increase the collective capital until the moment when the effect of this subtraction makes itself felt by an obvious impoverishment and there appear, becoming louder and louder, the claims for investment of the amortised funds, their productive employment yielding rents, interests or profit growing urgent. This social reaction movement against the stagnation of capitals in an inert state, being instinctive but irresistible, especially in countries that are being formed, where thrift has not been able to agglomerate considerable reserves for epochs of crisis and where the individual fortunes are the product of aleatory circumstances rather than the result of long and cleverly directed work, obliged the colonial Church to organise into a financial syndicate, into an agricultural and real estate bank, in order to transform its huge surpluses into permanent and accumulative rents by the system of hypothecary annuities and leases whose rents continued indefinitely increasing the general fund, to the extreme that at the end of the xviii century the clergy of New Spain was practically the direct owner of the greatest part of the real property both urban and rural, of the Colony and the hypothecary creditor of all the remainder.

The necessities deriving from that evolutive process of the ecclesiastical institution of New Spain must needs concentrate around certain directing nuclei the various dispersed primordial elements which in their original form appeared acting with relative personal independence. The multiple nomenclatures, regulations or institutes of the numerous monastic orders of monks and nuns, with their vellicities of corporate autonomy as also the special spheres of the attributions of the secular clergy, at the beginning in a confuse antagonism exposed to frictions and conflicts, were gradually becoming ordered, harmonised and disciplined, until they formed aggroupments regulated by severe hierarchic subordination so concentrated through their immediate chiefs in the hands of the common superior that their complex came to constitute the most vigorous of all known social organisms both by the intense cooperation of their molecular integrants which abdicating all individual will submitted to the absolute automatism of the engine before the supreme cerebral exciter and by the compact and solid external structure of its double invulnerable armour: the gold of the earth that dissolves the machinations of the powerful and the flammigerous steel of the celestial ire that throws out of Paradise the enemies of the Church.

A biological law of the vigorous organisms, at a certain period of their maturity, is their tendency to expansion, in the double sense of a widening of the spheres of their own vital activity and of the predominancy over other rival or weaker organisms that might be found in the orbit of their assimilating and preponderant influence. That tendency which the contemporaries contrive to call «imperialism» carried the colonial Church's hegemony to so complete an absorption of the political and civil power that the Government of New Spain became in reality a theocracy although it was seemingly moderated by the Patronage and although by form the administration and government functions were performed in the name and by the authority of the Spanish monarchs. Clergy ruled in fact as sovereign lord of the territory by the irresistible pressure of its spiritual power on the conscience of rulers and ruled, by the unbearable weight of its great wealth and by the admirable unity of action of its compact, disciplined and homogeneous mass.



Stone representing  
a mummy

But that a social organism born and developed within a political body be able to acquire such a degree of preponderance and absorbent supremacy, it is absolutely necessary there was a radical want of equilibrium in the functions of the State: an organic and deep lack of equipoise having deviated the nutritive affluents from the life of the whole to one sole of its components, in prejudice of all the others. The abnormal growth of the ecclesiastic organism in New Spain with relation to the other great factors of the evolution of the Colony could not but be founded on the general impoverishment under all the forms of common activity and on a deformation of the structure of society compelled to adapt, following the lines of lesser resistance, to the model imposed by the dominating agent.

Indeed, under the influence of the profound pessimism of orthodoxy preached by the missionaries, the masses stripped themselves for the profit of the Church, to conjure the peril of eternal condemnation. The despise of earthly goods deemed a virtue, work a malediction of the longing to penetrate the mysteries of nature, life a punishment, health a stimulant towards sinning frailties, hygiene a vain concupiscence; all those great deliquia of medieval mysticism whose progress through the centuries accelerated its increasing diffusion by convergent lateral excitants, made colonial society a vast camp of pilgrims resigned to bear the miseries of existence without any other lenitives for their bitterness and sadness, than the dream image of rest and peace of the soul and the artificial oblivion, parenthesis of suffering. The persistence of these causes in the broad masses of the indigenous population, organised into habits the carelessness, stoicism, apathy, which transmitted by inheritance from generation to generation ended by being the characteristic marks of the race; and as the frequent dearths obliged them to struggle for life reducing their necessities and beyond the mere animal food of the day, all other commodities and satisfactions were articles of luxury inaccessible for them, the invitation to forgetfulness by the alcoholic anodyne became irresistible and therefore inebriety was the dominant vice of the low caste.

The history of mankind demonstrates that men reduced to such circumstances no longer efficaciously contribute to the welfare of the political body they form part of; for they add nothing to the material and intellectual development nor to its strength and growth. The law of social capillarity that renders possible the rise to the surface of the molecules of the low bottom, to renew the energies of the superior classes cannot act through the impervious layers of the caste division. The Indian could not come out of the sphere of servitude to which the regime of the conquest submitted him, because religion and force, in accordance, tended towards a perpetual stability of the established order and to maintaining that conservatism hostile to any alteration in the system of extorting the poor and the humble obliging him to be resigned to his destiny in the hope for a reward reserved for him in a future and supernatural world. Why, then, among that immovable society, try to rise, or to raise one's children, above the low level of the degeneration of the race, if the future offered no possibility to break the crust of granite that separated and disintegrated them from all communion with the others? Neither individual exertion nor the compactness of the pressure exercised on the indigenous mass enabled to avoid, therefore, the degenerative process of a human aggregate deprived of every element of renovation to restore their wasted elements. But this retrogressive process towards the Indian's intellectual nullity or wildness and barbarity made apparent the lack of organic equilibrium of the colonial political body necessarily derived from the divergent lines followed in their evolution by the main factors of its mechanism, because the indigenous population being preponderant by its enormous numerical superiority over the remainder of the social mass, the combined influence of its inertness and progressive degeneration must needs react as the biggest obstacle to all harmonical collective growth and present itself for the future as the most awful problem of the new nationality.

Indeed, the Spanish element of European origin never was numerous in the Colony. In 1810, the epoch of its greatest density, it hardly reached seventy thousand persons on the whole territory whereof a third part, at least, was composed of women and children, so that there remained a nucleus of from forty to forty five thousand male adults distributed among all the active, political, administrative and judicial functions, wholesale business, mining, agriculture and army. So small a nucleus among a popu-



VOLUME SECOND

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AGRICULTURE

**Michoacán.---Estate of Queréndaro, former property  
of the Company of Jesus**

FROM A PHOTOGRAPH OF WALL'S





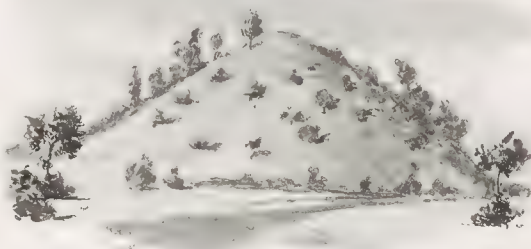




lation of 6,122,354 (1) corresponded to one Spaniard for every 143 colonial inhabitants, that is to say, hardly 0.7 per 100 of the whole mass. The city of Mexico, according to the census of count Revilla Gígedo, counted 2,500 Spaniards among 135,000 inhabitants, or one European for every 111 persons, in spite of the city being the residence of Government and therefore the gathering place of the greatest number of Spaniards. This small dominating group from which we must still deduct 9,439 persons born in Spain that integrated the number of 14,000 attained by the secular and regular clergy of the Colony (2) evidences the unlikely conditions wherein the viceregal system was maintained during centuries; indeed it is not easy to understand, unless you take into account the Indian's absolute abjectness the Creole's indolence and the Mestizo's fanaticised ignorance, how it was possible to sustain that prodigy of unstable equilibrium of a social body wherein the composing elements instead of cooperating to constitute a common unity dissociate and sunder from one another opening between them broader and broader gaps.

In spite of the links of blood the Spaniards and Creoles hated one another deeply. The latter, held aloof from office and public charges, not inheriting real estates, and being the large majority, agglomerated in the towns forming with the Mestizos the guilds of artisans and craftsmen of humble home industries, entering the army and colonial militia in the intermediate grades and in few cases penetrating into the intellectual spheres of professional life as physicians, lawyers or clergimen, by means of the Colleges or Seminaries managed by the catholic clergy, only dispensaries of public instruction. But trades and crafts being reputed occupations for churls and knaves, the suspicacy of the Europeans creating and sustaining an atmosphere of distrust against any native trying to rise above the level of the common inferiority, the systematic humiliation of the natives developed in them feelings of rancour, envy and despise that dug an abyss between them and the Spaniards (3). Thus, then, amid the same race of the conquerors, the evolution of the Creole who at the beginning of the XIX century already constituted 50 per 100 of the urban population had converted him into a disintegrating element instead of cooperating in the collective life of the social body; however, thanks to their characteristic indolence, the dissolvent reactions of their resentments remained in a potential and latent state, in spite of their continuous accumulation.

On the other hand, the mestizos whose number ascended to above 1,300,000 in 1804, by their passio-



Mound at Miniasburg

(1) Population of New Spain in 1810. F. Navarro y Noriega cited by Humboldt: *Ensayo político*, vol. I, page 127.

(2) Humboldt, vol. IV, page 275.

(3) It was not only a suspicacious and distrustful policy, but even the mere pecuniary interest that distributed all the employments among the Europeans. «Hence there arose a thousand motives of jealousy and perpetual hatred between the chapetons or gachupins (Spaniards) and the Creoles. The most miserable European, without education and without any culture of his mind, believes himself superior to the white born in the New Continent, knowing that with the protection of his country-men and in one of so many chances as occur in regions where fortune is so quickly acquired he may some day reach posts whose access is almost shut to those born in the country although they distinguish themselves by their knowledge and moral qualities. The Creoles prefer to be called *Americans* and since the Versailles treaty of peace they are often heard proudly saying: *I am not a Spaniard, I am an American.*» Humboldt, vol. I, page 226.

nate and turbulent character, by their instinctive tendencies to rise above the humble sphere of serfdom and by their ill-dissimulated hatred against the Europeans, contributed to develop the ferment of general decomposition, that together with the fear of conflicts and attacks from abroad, obliged Government to maintain under the arms a dispendious army and numerous provincial militiae (1). The mestizos, principally occupied in mine labour, in the transport industries and in the handicrafts in the towns and villages, also penetrated into the upper layers of the intellectual professions, craving for science and ambitious of wealth and power; but the strong pressure of the hostile medium enveloping them from all sides, carefully shutting up the smallest escapes, several times the trepidations of the ground, shook the colonial edifice revealing the existence of subterranean forces in a dangerous state of condensation of energy which slowly were giving rise to the formation of the so called *middle classes*, future directors of the country and immediate agents of its final emancipation.

Thus, at the end of three centuries of slow incubation, each of the great colonial factors showed itself sundered from the rest and with so opposite and antagonistic tendencies that there must needs follow shocks and frictions more and more jeopardising the stability and lasting of the system and such a delay and such difficulties in the motion of the whole that the greater part of the vital promoting energies must be wasted in sheer loss, as sustinment expense of a decaying mechanism, and the rest in derivations, sterile for the social mass, although profitable for the nucleus that monopolised power and wealth.

Of those derivations the two main ones were: the rent destined to the Spanish crown and possessions, of an average amount of \$ 9,500,000 cash and the clerical rent. Of this latter founded calculations could be made only after the revelation resulting from the account of the estates redeemed from mortmain by the Reform, during the second half of the XIX century; according to that account the value of the immovable property belonging to the Church in 1810 could not be less than one hundred and twenty million pesos and eighty millions the hypothecary capital which Humboldt estimated at \$ 44,500,000 already in 1790, so that the amount of the ecclesiastical rent of a permanent character might be estimated as follows:

Interests at 2 per 100 on the value of the immovable property (2). . . . .	\$ 2,400,000
Id. at 5 per 100 on the hypothecary capital. . . . .	\$ 4,000,000
Produce of the tithes on agricultural fruits of landed properties ( <i>not belonging to the clergy</i> ) in the dioceses of Mexico, Puebla, Michoacan, Guadaluajara, Durango and Oaxaca (3). . . . .	\$ 2,000,000
Annual rent. . . . .	\$ 8,400,000

Aggregating thereto the alms, donations and parochial obventions, affluents of indubitable import, it seems not temerarious to affirm that the bulk of that annual derivation on behalf of the Church ascended to twelve millions of pesos at least; resulting in consequence superior to the rent of the Crown and superior also to the viceregal budget that at the same epoch did not exceed ten millions and a half for all the expenses of the interior public service.

However, the main weight of the ecclesiastical rent, through the tithes and the hypothecary annuities, lay heavy on the rural property and therefore on agriculture which, besides the capitation on its working personnel that was the indigenous mass, had to support the excise on its products and the articles of consumption and the innumerable fetters and prohibitions of the monopoly policy on behalf of the peninsular importation (4) and the official industries. Thus it was unavoidable that the resultant of all those

(1) In 1804, the veteran army, the militia and the workhouse companies ascended to 32,000 men causing an annual expense of 4,000,000 pesos

(2) The rate of rent of the real estate is calculated in that manner in order to compensate the deductions for directly improductive buildings.

(3) According to the data of Humboldt, the average sum of the tithes in those diocesis was \$ 1,835,382 in 1790.

(4) «Mexican agriculture is full of fetters through the same political causes that hinder the progress of industry in the Peninsula. All the vices of feudal government have passed from one hemisphere to the other and in Mexico



depressive conditions was a more and more precarious state of the agricultural enterprises and the increasing absorption of landed property by the clergy thanks to the increase of the charges of the imposts and the incessant demand of capitals to repair rural exploitation.

The combined action of the two mentioned derivations, however, did not limit its effects to producing a more and more pronounced embarrassment in agriculture that was the most important source of the colonial life and nevertheless the most visibly oppressed (1), but repercussing on all the other elements of wealth, was by little and little irritating the minds against the established order, because they attributed to *bad government* the general poverty. It was in vain, the argentiferous lodes had produced more than two thousand million pesos in two centuries (2) and continued yielding annually twenty three millions on the average; misery and discontent were propagating among all the classes of society, without any hope of improvement; because the continuous absorption of ready money by the clergy and the Crown rendered the circulating medium scarcer and scarcer, diffculted the interior transactions, made commerce languid, choked all attempt at industrial investment and fostered that terrible marasm, precursor of the great convulsions that shake the organisms subjected to a prolonged inanition.

So it happened that when the moment drew near the colonial chain must break because tension was exercised beyond the coefficient of its resistance, the inner fermentations of the political body were not revealed by mere intermittent spasms, but the reaction wave penetrating to the deep bottom stirred all the consciences in the forefeeling of necessary vindications and of a radical change in the structure of society. The Colony's emancipation was not the work of a man or a class, it was the unavoidable result of an actual revolution uniting all the latent energies into a supreme effort towards the birth of national life.

### CHAPTER III

#### INDEPENDANT MEXICO

GENERAL CONSIDERATIONS ABOUT THE ESSENTIAL FUNDAMENT OF ALL HUMAN SOCIETY.

RADICAL DEFICIENCIES OF THE EMANCIPATED POPULATION. NECESSARY STRUGGLE BETWEEN

THE ANTAGONISTIC INTERESTS. PRECARIOUS SITUATION OF AGRICULTURE. THE GREAT REFORM WORK.

END OF THE TRANSITION PERIOD. DEFINITIVE PEACE. BEGINNING OF INDUSTRIALISM.

AGRICULTURE AT THE END OF THE XIX CENTURY

**I**N social life every man is subjected to necessities and wishes inherent to his organism to such a degree that his entire existence is consecrated to satisfy the former and to gratify the latter according to the urgency with which they manifest themselves and to his own personal aptitudes. From his earliest age every individual acquires the conviction he must inevitably give something in exchange for what he wishes to obtain for his pleasures or satisfactions, up to the extreme that he who does not pos-

the misuses have been graver in their effects... Government has preferred that the Mexican people was dressing with cotton cloth purchased at Manila or Canton and imported to Cadiz by English ships rather than protect in New Spain the manufactures and consequently agriculture producing that raw material.» Humboldt: *Ensayo político*.

(1) «They who do not know the interior of the Spanish colonies but by the vague and uncertain news published until to-day, will hardly be persuaded that the main sources of wealth of the kingdom of Mexico do not lie in its mines, but in its agriculture.» Humboldt.

(2) The money coined until 1803 ascended to 2,028 000.000 pesos. Humboldt, vol. IV, page 276.

ness or cannot produce anything of what is wanted by the remaining members of the species, soon finds himself destitute of the means of existence, or in general terms, he who cannot pay the cost of his own life, is doomed to perish. Human society is a large book of current accounts; what any member consumes is his debit, what he produces is his credit; the balance determines individual position or rank.

Thus, *exchange* is the essential instrument of life, of commerce, of industry, and at the same time it is the necessary base of any political, economical and social structure. Even the just born child is a potential factor of future exchange because the expense it causes its parents until the age it may be self sufficient, is an accumulation of aptitudes and energies destined to be converted into the capacity of selling work or of manufacturing and producing things, objects or services susceptible of exchange.

However, for the existence of exchange it is indispensable that the physical or intellectual exertion of man should have previously modified the offered product or object adapting it to human consumption or use; for what may gratuitously be obtained by every body although it satisfies necessities is no matter of exchange. This adaptation of the product or service to the wants of others, has given rise to the idea of value which implies as a characteristic quality the possibility of being exchanged or of facilitating exchange.

Nature has prodigally spread over the planet the things and elements susceptible to be useful to man. The land possesses every kind of aptitudes to produce fruits, the sea yields fish, the running water mechanical force, energies are contained in the wind lazily blowing over the meadows; but none of these sources of possible usefulness becomes an *actual value* but after dropping under the dominion of man and receiving from him the adaptation or adequate form for human use by muscular exertion or by the application of his intellectual power.

Human labour turns to profit the natural elements under the action of the two great laws of the indestructibility of matter and the persistence of energy, that is to say, by mere transformations more or less prolixly combined on which he impresses the required aptitude to serve for the necessities of food, clothes and lodging. But man's field of action to perform those transformations, is practically unlimited; because the activity of the natural forces being inexhaustible and the variety of their combinations infinite, the horizons of human labour to provide for the wants of mankind become widened and progressively enlarged, it not being possible to fix a term, whence it follows: that poverty or misery, in whatever society, must be attributed to want of mental or physical energy of its members, but nowise to want of material elements, because wealth does not reside in the deposits of ores in the ground, but in human labour.

If in nature nothing is destroyed nor any force annihilated, the work of man realising those transformations for the benefit of the rest of mankind continues incessantly creating new fountains of values each of which, in an indefinite series, serves as food for others and others that in their turn engender other nuclei of change of form and adaptations in indefinite progression until they comprise in their complex all the cycle of universal life. Thus, the cotton ball ginned and baled, is the final product of the husbandman who has given the fruit of his field the adequate form to yield it by *exchange* to the manufacturer of tissues. For the manufacturer, the cotton bale is the *raw material* of divers transformations thanks to which the piece of cloth, besides acquiring a value additional to that of the material employed is the final product of his industry. But the piece of cloth becomes in its turn the *raw material* of him who makes garments that constitute the *raw material* of the linen-draper who at last cedes them by an operation of exchange to him who wants to use them. But the cycle does not end here; the dress wasted by use, the rag abandoned as useless, becomes *raw material* for the manufacturer of paper, of a multitude of so varied and surprising applications that they by themselves form a world apart, of industrial, scientific and intellectual activity; these linkings multiply, in an admirable manner, the values created in continuous succession amid modern society feeding an intense commercial exchange. And still, the residue and waste of the periodical and the book, the useless rests, the offal and refuse resulting from so many transformations of the original ball when returning to the ground to close its long aerobian metamorphosis

begin a new the cyclus of life elaborating as *raw material* in the mysteries of organic decomposition the elements of new combinations of force and matter whence there will come out other pods, other grasses, other *raw materials* destined to be converted by the labour of man into commercial values adequate to satisfy the wants of mankind.

The accumulation of values constitutes wealth and when those values have the adequate form for immediate exchange, wealth takes the name of *capital*; but labour being the essential source of value, the nation where labour is better employed and better managed will necessarily be the richest, the most prosperous, occupying the highest level of human welfare, and called to preside over the civilisation of the world.

In modern societies the large majority of men have no other resource of subsistence than their personal work which they sell or give in exchange in order that others may employ it in the production of certain forms of value. For that sale, that is his salary, the worker receives the means of paying the cost of his own life and from this point of view, labour is the necessary and fundamental condition of human existence on earth. Bought labour, in its turn, is the origin, support and unique base of all the forms of organisation: workshop, mill, factory; family, municipality, State, Church.

Labour, therefore, is all in social life. It is the motive, the sum, the ratio of everything amid the human aggregates. Every stroke of the clock of time marks the inexorable flight of the past, dead for the future going to be born; every minute in which a labour might be executed, but is allowed to pass, the labour remaining uneffectuated is an irreparable loss for the individual and for the complex; whence it follows that laziness is

a defraudation, apathy a dissipation, misery a vice of lese humanity. Colonial society had been systematically bred in the depreciation of labour. To the slavery of the indigenous mass, as if it were a universal intendency, it intrusted the task of providing for the wants of common life. To the guilds and corporations regulated and disciplined like a military institution it yielded the workshop and office, the arm that extracts the raw material from the natural laboratory and the tool that transforms it and adapts it to the wants of consumption. Even in the lowest ranges of activity labour was not free (1). Nobody was allowed to chose an occupation not having previously been admitted into the respective guild. Nobody could manufacture or elaborate any article or merchandise but subjecting himself to the official type



Uxmal.—The nuns' house

(1) Nobody can exercise an industry, commerce, trade or art not being matriculated in a guild. Law of June 2<sup>nd</sup> 1703, 6<sup>th</sup>, book VII, title XXIII of the Nov. Recop.



and to the weight and quality of the materials determined by the guild and approved by the ordinances (1). None had a right to exercise more than one craft. Industry, utterly elementary and primitive, was not the voluntary cooperation of capital, intelligence and labour, but besides being depressed by official control, could not elaborate any product similar to those of Spanish or foreign origin. And this legislation together with the influence of religious mysticism surviving independence (2), the result of both on the social mass, must be and, indeed, was the suppression of all incitation to work, the miserable condition of inland industry and the persistent restraint on all velleity of advance and improvement of the worker and craftsman obliged to accept an invariable remuneration fixed by the regulations, having no consideration for individual aptitude.

On the other hand, the long insurrection war had obliged a great many Spaniards to emigrate, carrying along with them their fortune, and to reduce in a considerable degree commerce and field and mine labour, this causing a general and every day increasing impoverishment; and as at the beginning of independence, the great pressure exercised by the creoles and mestizos to occupy the public employments and charges, the needs and compromises of the new governments and above all, the old hatreds vivified by the threats of reconquest and the presence of a Spanish garrison at Ulua caused the expulsion in mass of the inhabitants of that nationality, the country, but just emancipated, found itself in exceptionally precarious and difficult conditions to satisfy the ineludible exigencies of its autonomous life and to provide for the deep want of organic equilibrium suddenly accentuated by the subitaneous disappearance of its main element of inner activity. The drainage of the capitals accumulated by the Spaniards; the abandonment of the mines and lands worked by them; the paralisation of the inland commerce that was in their hands; the interruption of importation by the state of war maintained by Spain's resistance to acknowledge the Independency and which suspended for years the arrival at our ports of the only ships that sustained our relations with Europe, were so efficient causes of disturbance and uneasiness that they sufficed by themselves satisfactorily to explain the as lamentable as incessant intestinal convulsions that agitated the country during more than half a century retarding its natural evolution.

The nation emerged therefore out of the long period of the Spanish yoke unarmed for the struggle for her own existence, in the new artificial medium of an atmosphere of freedom, which far from encouraging and stimulating as intense cooperation of its evolutive elements in turning to profit its vast territory's sources of wealth, only stimulated and inflamed tempestuous condensations of hatred upon the sole active instrument of accumulation of values which during centuries of a systematic parasitism had deviated majority of the natives from the way of enterprise and industry enervating in them all personal initiative and reducing them to the precarious and uniform condition of mere salaried labourers, submissive dependents on the fancy, fortune or charity of their exploiters. Thus the exodus of the Spanish nucleus suddenly left the country destitute of enterprises, industries and effective capitals and the large mass of Mexicans without occupation and without the accustomed means of existence; but with the inevitable charge of a proper government obliged to keep the sovereignty of the nation through the maintenance of a ruinous army. And as the state character and vitality of a political aggregate are necessarily the resultant of the condition, state and prosperity of the individuals composing it, the country's poverty must needs reveal itself *by the impossibility of paying the cost of its autonomous life* or what is the same:

No shoemaker nor any leatherworker may have a tanning-house (tannery), on pain of 6,000 maravedis for the king's chamber. Law VII of the Recop.

No weaver may exercise his trade without a previous examination. Nobody may practise more than one craft. Law C, tit. XIII, book VII of the Recop.

(1) Any merchandise not having the legal standard, weight or mark, must be publicly burned.—4<sup>th</sup>, tit. XII, book 5<sup>th</sup> of the Recop.

The bread manufactured by the bakers must be stamped with a mark on every piece expressing the number of them to be sold for half a real. Decree of October 14, 1829 (national).

(2) This legislation subsisted in Spain up to December 6<sup>th</sup> 1836 and in Mexico until 1856.

by the impossibility to extract from national labour the values necessary to sustain lasting, efficient and respectable governments.

The first manifestation, indeed, of the new independent life was the amazing demand for public posts, employments and charges the first national government received from all parts of the territory. More than threehundred thousand creoles and mestizos, says the historian Zavala, claimed as a right of victory to occupy the posts held by the Europeans during the colonial dominion. «The former insurgents came every day in crowds requesting pensions and rewards for their services. Large and small ambitions, in an incredible number, must be satisfied, in order to avoid discontent. All those who had taken the titles of generals, colonels, officers, intendants, deputies; all who had lost their estates defending the cause of Independence, through destruction or confiscations made by the Spanish government; those who had been disabled for work by the wounds they had received; indeed, *half the nation* begged and Government was unable to give more. Scarcity on one hand and exigencies on the other; such was the financial situation of Government. In consequence thereof, the deputies were without their fees and some of them were in so wretched a state *that they lacked the money to pay their letters*. The office holders were not paid with exactness and even the troops, although they were the chief attention of Government suffered delays in their pay (1).» *There were no funds*, Iturbide said in his Memoirs; *there were no funds to maintain the army; the public functionaries were not paid; all the national resources were exhausted. There were no loans to be negotiated in the country.* Those that might be made abroad required a longer time than the urgency of the needs would allow to wait.

«An extensive revolution, so the minister of Finance informed the federal Congress in May 1829, has on a sudden surrounded us with ruins. Public revenue has disappeared; there is no room for credit when fear treasures ready money and this spring of social force becoming weakened there arises a relaxation of men, things, resolution, valour and even virtue. The State's revenue is destroyed, the Treasury is enstyre, public force without resources; to-morrow, this very day, this instant your intervention is needed. We cannot remain in the situation we are in, for fear of a dissolution whose consequences cannot be calculated. Income has reached, in the last nine months, scarcely the seventh part of the expenses of the Federal District, so that the Ministry of Finance has been obliged to have recourse to anticipations of duties, always degrading and many times ruinous and to transactions that caused the Secretary of this department to appear rather as the agent of a Bank than as the Superintendent of the revenue of a great nation.»



Monolith at Quirigua

(1) *Ensayos históricos de las revoluciones de México* (Historical essays on Mexico's revolutions). Zavala, volume I, page 138.

«The common produce of federal revenue,—Mr. Mangino told the National Congress in 1830,—*were never sufficient to cover the budgets*, and so it came that foreign loans (1) filled the deficit as long as there existed funds of that origin. This resource being exhausted, that of the inner loans with the admission of credits was adopted for the same purpose, and although in that way some funds were obtained for the moment to get out of the embarrassments in which those business were transacted, they afterwards caused a progressive diminution of income reducing at the end to nought the most important of the branches of public treasury. In consequence there of all the income this now gathers, hardly reach 320.000 \$ every month, and with so scanty a sum it is impossible to cover even the services that most urgently claim Government's attention. Thus the soldier, the functionary, the pensionist, the widow, every where claim the soccours indispensable for their sheer existence. The commissary-generals incessantly represent the great conflict they are in by the lack of resources and in order to procure them in a small scale they draw orders on the general Treasury that is unable to pay them. Meanwhile discontent, the inseparable companion of misery begins to get manifest. The partisans of disorder are incessantly at work exaggerating those circumstances in order to discredit government and to cool down the enthusiasm of the troops who in exchange for their praiseworthy decision for the restoration of the Constitution and the laws we themselves unheeded, lacking even the soccours indispensable for their subsistence. In sum, public tranquillity, national honour, the integrity of the territory, the form of government, liberty and the very independence of the country may be in jeopardy unless extraordinary sacrifices be made and the wisdom of the Chambers dictates the prompt and efficacious measures exacted by the sad circumstances to which the federal treasury is reduced.»

This language was that of all the ministers of Finance during more than half a century.

Easy to understand, by these brief quotations, is the law of causality that inflexibly governed the continuous outbreak of the revolutionary phenomena in this country. No government was able to pay the cost of its existence; therefore it was doomed to perish; and it could not pay the cost of its existence, because the nation was composed of labourers and office holders in their immense majority, that is to say of consumers rather than of producers of wealth; by this reason the taxes did not yield sufficient sums to cover the expense of the general services. The labourer needed the association of the capital organised into industrial enterprises, into vast agricultural exploitations, into intensive mining and mercantile activity. The functionary needed a flourishing and prosperous Treasury able to remunerate with regularity his labours consecrated to peace and public order, protectors of the fecund work of the large mass of the population. And as there were no enterprises, nor industries nor capitals in activity, of sufficient import to conquer, by the stimulus of reward, the traditional apathy characteristic of a society habituated to the contempt of labour, it was not to be hoped the level of human welfare would rise sufficiently to overflow over the common collector the fertilising current of national life in order to gradually stimulate and give tone to its latent energies.

The action of the law of causality was, therefore, inexorable. The existence of the governments reckoned at first by a few years, was counted afterwards by a few months. Every disturbance limited the fields of labour and to every limitation there corresponded an increase of misery. The ferment of social decomposition invaded the extremities of the political body. Pieces of the territory were losing their vital wherence to the primitive trunk. Guatemala was the first disintegration; Yucatan attempted several times to become independent; Texas became annexed to the American Confederacy.

However, the roots of the causation law did not start solely from the superficial heedlessness of the social classes; they came from a greater depth. They came from a ground sterilised by the prolonged absorption of its nutritive sap in benefit of an organism that shut them up in deposits closed to the

(1) Those contracted in London with the houses of Goldsmith and of Barclay, Herring and Richardson, whose produce in money was insignificant, most of them having been received in form of old ships, unserviceable vesture and arms and the remainder in credits never to be cashed because of the bankruptcy of those houses.

VOLUME SECOND

AGRICULTURE

**The Sugar-cane plantation "San Gabriel"**

(STATE OF MORELOS)









current of the national life as so many other subtractions from the field of common activity. The land forestalled by the clergy and by a reduced number of big landowners, remained out of the reach of the immense majority of the inhabitants and, therefore, there was no possibility to form that nucleus of powerful public prosperity constituted in modern peoples by the small portion-holders, who stimulated by personal interest, centuplicate cultivation, inject wealth into all the distribution canals, consolidate order and morality, widen commerce, favour industry, enhance working and establish, upon the feeling and consciousness of individual dignity, the most solid base of the world's civilisation. The clergy had benefited for the treasury of the Church by the great bitternesses of the exiled, the infinite sadnesses of the public calamities, the marasm of deception and discouragement of the unceasing and devouring wars. The donations, the pious foundations, the offerings of relief to appease the rigours of chastisement and to propitiate the will of heaven continued flowing, in an endless current, to the bottomless receptacle or were transformed into permanent annexes of new territories and dominions. The level of the wealth of the ecclesiastical organism rose thus in direct proportion to general impoverishment and its bulk reached such extreme dimensions that the political body in whose entrails that extraordinary superfetation was developing was to face, on a sudden, the most terrible of all dilemmas: either to perish of an immediate and inexorable asphyxia or to mangle, pull out and destroy in its root that colossal financial abscess that was already absorbing all its sap and threatened to throttle it under the weight of its immense mass.

Already, with anticipation of this inevitable duel, the national governments forefelt the imperious urgency of opening a breach into the wall of social apathy, favouring the escape of its latent energies towards the fields of manufacturing industry, with all kinds of stings and franchises. The abolition of exclusive heirs and entails in order to promote fractioning of the large landed property appeared to give too slow results in order to derive towards agriculture a current sufficiently active and efficient. The urging and deprecatory invitations to foreign immigration, with the aim to attract capitals and people for the development of the natural elements of prosperity of the country and to modify by this contact and example the indolence of the natives, proved a lamentable failure because of the furious and ferocious religious intolerance fomented by clergy among the lower classes of the population; or they produced an effect in desert and remote territories, by dangerous condensations, disconnected of all dependency on the general nucleus. Thus the State stumbled over obstacles and resistances above its scanty means of intermittent propulsion, due to the clerical organism's reactions against any movement that might alter the absolute conservatism of its undisputable domination; but with special eagerness if that movement were to come from motors of exterior origin not subjected to the manufactory stamp of the common creed.

The stimulants towards industrial derivation set in motion by the State were of so surprising an ingenuity that they reveal the anxious haste to awake in the country a powerful push towards work in the zone less obstructed by clerical influence. The prohibition of importing cotton and wool tissues in order to force the establishment of manufactures in the Republic, a prohibition that gave no other result than an increase of the nudity of the inhabitants, was substituted by the direct action of Government trying to be its own manufacturer and producer. With this aim a Bank was decreed called of *aviso de la industria nacional* whose capital fixed at a million pesos was to be formed by permitting, during the necessary time and *no longer*, the law says, the entrance of prohibited wares, in order to consign the fifth part of the duties they had to pay, to the fund of the Bank. But the urgency of creating and fostering «the different branches of industry» alluded to in the decree not allowing of any delay, Government was authorised to negotiate a loan of two hundred thousand pesos at the lowest possible interest, *not exceeding three per cent a month*, in order to purchase and distribute the necessary machines. The director of the Bank was to be the Secretary of Relations who besides being charged with the management of the manufacturing industry in the Republic, ought to supply private people or companies, dedicating themselves to that industry, *machinery at the price of cost and capitals at an annual interest of five per cent*. The decree produced no other consequences than an increase of more than eight millions every year in the deficit of the Governments budget and to leave abandoned on the intransitable roads



from Veracruz to Mexico some engines impossible to transport. Nobody then benefited by the State's sacrifices and it wanted incredible efforts, exorbitant privileges and ruinous concessions in order to obtain, at the middle of the century, the appearance on our country's territory of an anemical artificial industry.

Not even in the modification of the tendencies of the enlightened classes a favorable change could be expected for the better utilisation of the nation's elements of prosperity. Public instruction, besides being merely theoretical and literary, was in the clergy's hands or was directed by the clergy. With the exception of the Mining School, that of Medicine at the middle of the century and of the Universities, the only fountains of instruction were the Conciliar Seminaries and the Colleges where they studied theology, canon law and ecclesiastic history, as fundamental bases of intellectual culture. The mechanical arts, the mercantile and industrial professions, the physical and chemical sciences, the investigations of nature in order to discover the actual laws of life and to apply them to the benefit of mankind were a secondary and trifling purpose of the educational methods. The intellectual currents which year by year, emerged from those teaching establishments penetrated into the social mass previously sterilised and deprived of all class of fecund germs capable of developing common welfare. Positive providing offices, large manufactories of pretenders for public employs and posts, were all those Seminaries and Colleges casting incessantly into the struggle for existence generations after generations of professional men who overpassing very soon the narrow limits of demand for their services and incapable of deriving from other ores the maintenance of their own lives must needs fall at last, disarmed and burden to the State, the natural receptacle of the waste produce of so continuous an elaboration.

Thus, then, all the possible roads of national activity were being closed or obstructed at the rate the evolution of the ecclesiastical organism was extending its roots, more absorbent every day, to the very marrow of the political body, and at the measure, also, that the feverish and convulsive state of society, in a tremendous agitation, unconscious but instinctive of her own defence against the cancer that was devouring her, was precipitating the hour of the inevitable crisis in which at length the fundamental question was to be resolved: or the emancipation and complete supremacy of the State or the absolute triumph of the Church.

The struggle broke out at last and was tremendous. The nation, extenuated by so long sufferings, concentrated the rest of her energies in a supreme aspiration towards life; in a desperate strife to cast out of her entrails the cause of deep illness; in a convulsion of her whole being against the oppressing and asphyxiating clutch that was keeping her prostrate, dismayed, dying. Neither palliatives nor delays were possible any longer: either the radical extirpation of the pathological focus, or the stoical and resigned passivity for an inexorable annihilation. Suicide by inercy or health by the violent reaction against the morbidic germs.

The adversary, however, was a terrible one; his powerful arms, his shut organisation, his imperious and decided will to dominate. And everything, in the social medium, was conspiring on his behalf: a tradition of long years and the inveterate custom; the superstitious fear of an anarchic future and the agonising doubts about the present; the enormous bulk of the fanaticised masses rising threatfully against the sacrilegious offenders of the religious dogma and the seduction of feminine prayer insinuating itself into the intimacies of home, into the sanctuary of the family, in the name of the love of mother, of wife, of daughter, in order to snatch out of the rows of the reprobate, of the foes of faith, the beings most beloved to woman's heart. Because the absorption of the State by the Church, the predomination of theocracy over democracy, and, above all, the defence of the clerical wealth, were cleverly identified with the very foundation of the religious creed, making of political and social subjects, of economical and financial affairs, of business of privilege and caste supremacy, questions of dogma, attempts against belief, monstrous attacks on the established religion and morals. The Indian's intellectual nullity, his ignorance maintained at the lowest level, going the length of materialising worship in the statue or in the effigies and confounding in the same idolatry the fetiche with the priest, were the yeast most prolific in poisonous toxines, ready to incubate the phoby of fanaticism in all the brains and to kindle the

fever of the holy war in all the consciences, against any impact on the wall of the superstitions that involved in an impenetrable manner the interests of a merely worldly origin into the voluptuousness of martyrdom in defence of the christian faith. And, on the other hand, woman submitted to the emotional suggestion of mysticism, being by organic necessity inclined to confound the fascinations of the form with the pure moral idea and the harmonious symbolisms of rhythm and colour with abstract truth diluted among the splendours of its impressionist representation, identifying the aesthetic feeling of the work of art with the artist who produced it and incarnating in this the divine verb in a natural and irreflexive manner; it was unavoidable that the deprecations and anathemas of the ministers of worship should meet in her so propitious an echo as if the question were of the very downfall of the Church and the destruction of the religious dogma.

Civil war, therefore, stained with blood the national territory assuming the specially envenomed character of religious struggles; and although the triumph of the State was at last both complete and definitive, terrible reactions more than once placed the autonomy of the nation in jeopardy and still for many years, after the main cause of the organic perturbation was overcome and vanquished, the very element of combat of the political body, far from being transformed into fecund sediments for the seed of social prosperity to germinate in giving vigour and nutritive strength to the country's convalescence, maintained it by their constant agitation, in a feverish state, exposed to disastrous convulsions and to depressive disquiets, that visibly retarded the beneficent effects of the grand operation, with so great energy realised by Reform.

As it was but natural, during that long and mournful period of want of organic equilibrium, all the fountains of social activity, and especially agriculture, if they did not remain wholly paralysed, because they were by necessity indispensable for the very life of the political aggregate, they suffered the discouraging and adverse influence of the general lethargy and the extortions and direct attacks which are the ordinary retinue of the prolonged and ruinous civil wars. The insecurity of the fields and roads obliged the landowners to seek refuge in the towns leaving their possessions abandoned or intrusted to managers defenceless against the armed bands that were pululating throughout the territory. The scarceness of ready money, the absolute want of credit, the extraordinary imposts and war contributions continuously exacted by the Governments and their adversaries; the levies or presses in mass among the country people to fill the rows of the combatants; the destruction of crops and granaries to deprive the enemy of victuals; the robbery of labouring beasts for food of armies and guerrillas and parties of bandits; and lastly, universal misery were no conditions compatible with the development and advancement of the agricultural industry of the country, but, on the contrary, were conditions adequate to produce regressive contractions towards a state of behindwardness and of reduction near to abandonment. Agriculture, therefore, up to the beginning of the last quarter of the XIX century, has not had another history than that of an incessant spoliation twice disastrous for the discouragement it maintained during several generations among its active population and for the numberless losses of its elements of labour; discouragement and ruin which scaring away capital from all velleity of investment in the cultivation of the land left it delivered up to the vampirism of usury and necessarily reduced to the most urging exigencies of local present and immediate consumption.

However the very exacerbation of so great calamities that made the general suffering culminate to paroxysm, precisely while the sudden ablation of the internal abscess left the body of the country bloodless, contributed to hasten the critical moment when the fundamental problem of the collective organism's surviving ought to be resolved, as it was resolved, at last, by a frank reconstruction, as vigorous as rapid, when, after the extinction of the permanent cause that deviated all its nutrition sap towards the sterile deposits of the clerical treasury, these spread its fabulous reserves of wealth accumulated during centuries through all the tissues and all the canals of the nation's political body. As the fecund irrigation renders its fertility and exuberancy to the torrid soil parched by the drying fire of the equatorial sun, so the infiltration of that large mass of values into an exhausted society was gradually giving it tone

and strength and enabling it to rise from the most disconsoling desperation to the lusty life of healthy organisms, whose energies cooperate in concert to raise the level of common prosperity. In spite, therefore, of the intermittencies and transitory retrocessions which the political body underwent during the period of convalescence and which were due to the slow sedimentation of the elements of active fermentation until they acquired a stable and regular equilibrium, the end of that transitory epoch, about the year 1876, the starting point of the present era of peace already allowed to appreciate with serenity the transformations effectuated in Mexican society by the secularisation of the ecclesiastical goods, the separation of the State from the Church and the complete liberty of conscience and worship; as also to conceive the future lineaments the national evolutionary process was to follow under the direct influence of the new ways opened for its development by the grand work of Reform.

It would be narrow minded and even unjust to consider Reform a mere political triumph of State over a rival power reduced to a transitory inaction for being deprived of his principal means of combat. The political effects of the Reform are the least important; its grand work, before all and above all, is eminently social.

The complete separation between Church and State at once secularised public instruction making possible a fundamental change in the direction of the intellectual currents of the new generations; which by a logical reaction against the old system abandoned the sterilities of the theological and metaphysical studies, the infecund ecstasies of contemplative life and the useless disquisitions of scholasticism, in order to penetrate into the vast dominions of the positive sciences and their practical applications to real life where the ample rewards of human exertion powerfully stimulate individual interest towards the development of wealth under the empire of public peace and order. The ecclesiastical profession ceased to be lucrative, privileged and influential; therefore, the cloisters of its seminaries remained void, and as, the main cause of the intestine agitations being once extinguished the militant element weakened its absorbent power, becoming transformed into a normal organic institution of a society beginning to get equipped, they youth brought up in the School and the College was already able to form generations deeply imbued in the necessity and love of work as the unique source of personal welfare and of the prosperity of the nation. Those generations, now directors of the evolutionary process of the country, are the shonect props of its interior tranquillity and the immediate agents of the industrial transformation which begins to regenerate all the fountains of collective activity and promises to convert a people devoured by misery and exhausted by the war fever of the past times, into one of the most vigorous and flourishing of the American Continent. From this point of view the Reform has been fecund in benefits of an eminently social character, its transcendence becoming more accentuated at the measure we take into account other convergent results of its grand work.

The history of humanity proves that, indeed, from the Roman *large landed estates* to the *clearance system* of the English lords in Scotland and Ireland, the regime of large property concentrated in a few hands has been the most efficacious instrument of unpeopling the territory (1) notwithstanding the owner's fortune has considerably increased by the continuous investment of capital and by the steady improvement of cultivation. In Mexico, the system of large landed property assumed, besides, other special characters due to the nature of the Church's financial management. Ecclesiastic administration did not capitalise the overplus of its normal expenses in a reproductive form, improving agricultural exploitation in order to augment the produce or promoting and stimulating social activity by the investment of funds

(1) «The large dominions, created by the lex Claudia, unpeopled Etruria, Apulia and Lucania and ruined, according to Pliny, Italy and the Provinces.» (Mommson, *Roman History*, books III, and IV.) «The great lords of Scotland have expropriated families as if they were bad weeds to be pulled out.» (George Ensor, cited by C. Marx: *Capital*, page 322.) «In Ireland, the land belonging to a small number of owners, was divided into an infinity of small agricultural exploitations; but since, in 1841, that system was shifted for that of concentration, the rent of the owners has increased but the population of Ireland has decreased from 8,175,124 it was in 1841, to 4,550,929 in 1897.» (*Handwörterbuch der Staatswissenschaften*, second edition, volume I, page 110.)



in order to create and foster industrial enterprises. The financial management was a merely *rentist* one, i. e., it had no other aim than that of obtaining interests or rent either by direct administration of the immovable property or by placing the values at a hypothecary quitrent. The repercussion of this system through time, in the complex incidences of the social phenomena, became manifest by facts of an exceptional importance. Of course, rent being a continuous suction not returning to the common mass in any form, but, on the contrary, being kept out of circulation like a treasure to increase afterwards its extractive effect on the producing element by new investments, the progressive general poverty, caused by such an economical system, very soon attained even the other big landowners reduced to be themselves tributaries to the ecclesiastical institution through increasing burdens under whose weight the utility of the rural exploitations was decreasing and the productive power of the whole nation was weakened. On the other hand, the want of personal interest of the managers of the goods of the Church was not, nor could it be, favourable to the increase of the bulk of agricultural production but an effective motive of carelessness in the management of her immense territorial fortune; hence there must result a reduction or at least the immobility of the fund of subsistencies, thus limiting, indirectly but necessarily, the growth of the population, this always being proportional to the abundance or scarcity of food. And, lastly, the forestalling of the land and the absence of industries left no other resource of subsistence for the immense majority of the inhabitants but salaried labour, either periodical or daily wages, the development of the middle classes that during the XIX century have given so powerful an impulse to the world's civilisation and prosperity, remained in an embryonic estate and the nation found herself practically divided into but two ostensible groups: the active and productive one, formed by the possessors of the soil, more and more dominated by Clergy, and the passive and consuming one, merging more and more from day to day into dependency and misery. Reform decreeing and realising the un-mortmaining of the Church's estates radically changed so defectuous an organisation of society. What the anterior laws and the continual civil wars had not been able to obtain in an appreciable manner in half a century, Reform did it with one stroke: the sharing and distribution of the large landed property among a considerable number of new proprietors exceed «nine thousand.» (Report of the Minister of Finance, Sir Michael Lerdo de Tejada, 1857.) Reform did more: it facilitated, stimulated and carried through the liberation of the whole unmovable property of the enormous burdens that were crushing it. Still more: it gave back to the country and to active circulation the immense values detained by mortmain in the form of infeud rents. However, to share and distribute the landed property, to free it of its burdens and to give back to circulation enormous sums of values before detained are so very gigantic operations that they must necessarily produce fundamental modifications in the structure, in the evolutionary course, in the very constitution of the national organism. Reform inaugurated a new era in the history of Mexican society. The country ceased to be a feud of the Church and began to be a nation. Her inhabitants shifted their character of serfs of the glebe ecclesiastic for that of free men, lords of their own soil and sovereign arbiters of their own destinies. The cultivation of the land stimulated by personal interest, rapidly increased the fund of subsistences: the population, stationary or regressive, grew 60 per 100 in but a quarter of a century; capital inclined towards industry and labour, eagerly solicited, began to be fecund enough to allow to pay the expense of a respectable, strong and lasting government. The country respired. A new life inspired it vigour and strength. The ascensional movement became resolutely initiated.

But the work of Reform did not end there. By the liberty of worship and the freedom of conscience it destroyed the last obstacle that isolated the nation from the universal community. People of any religion could settle therein with full security for their persons and with every regard for their creeds; and foreign capital foreseeing the magnitude of the transformation effectuated in a society tired of war and desirous of peace and labour came flowing in a continuous current to develop the innumerable elements of wealth of a vast territory so prodigally endowed by nature with all kinds of remunerative possibilities of human industry.

To Reform, thus, the country owes her fair present and smiling future of prosperity and greatness:



a positive resurrection almost touching the limits of the marvellous. Independence, in deed, suppressed the parasitism of the Spanish dominating element and gave rise to a new nationality, but in such a state of want of organic equilibrium that her precarious life was constantly afflicted by terrible convulsions which more than once put it in jeopardy of a fatal disintegration. Reform not only operated the extirpation of the morbid cause rendering the diseased organism its health, but it prepared the complete reconstruction of the same upon so wide and solid bases that, in reality, it is a new country, full of vigour and lustiness which it has created by its wise laws.

Among the most urging necessities of any individual or collective organism, after the merely nutritive ones, that of the development and improvement of the internal circulatory system on one side, and on the other that of communication with the outer medium which constitutes the life of relation appear predominant. The former has for its object the rapid and economical distribution of the products destined reciprocally to satisfy the demands of consumption, favouring the conservation and growth of the aggregate; and besides, that of tightening and rendering easier the contacts between the centres of interior activity, stimulating in their turn the transformation into useful force of the solitary deposits of inactive potentials energies, thus strengthening and vigorising the final cooperation of all the integrating elements towards raising the level of the life of the complex. The latter promoting the interchange with the other similar organisms, fosters the mutual benefit of making practice for all the members of the kind, the acquisition and enjoyment of the satisfactions and commodities which climate, race, expertness, the physical medium and the intellectual medium singularise in every group, fraction or people of mankind. Both being functional and therefore indeclinable necessities of collective life they imperiously urge the creation and development of the organ destined to accomplish them, on whose importance the progress and powerfulness of the nation are directly dependent. Up to 1876, the country, with a territory of two millions of square kilometers for eight millions of inhabitants, irregularly distributed among its mountains and its vales, maintained its towns and settlements at so large distances and with so many difficulties of transport and communication that they resembled strange and independent groups rather than integrating members of the same social body. Even in the customs the reality of this want of cohesion became manifest by the aggressive and hostile feeling between the settlements, the provinces, the States, limiting the link of community, the idea of fatherland to the native ground, to the topography circumscribed by personal acquaintance, to the political district described by the radius of the administrative interests, a true flock localism, in the mass of the people; a mistrustful provincialism in the cultured classes, incapable of elevating themselves to the abstract notion of a living and collective organism of which all the inhabitants were equally solidary elements, but for a small number of select minds in whom the intellectual representation of a vast surface enclosed by seas and frontiers, awakens the idea of a common residence where the destinies are realised of one same race amalgamated into one compact aggregate by affinities of origin, blood, language, ideals, traditions and history, sufferings and hopes, that is to say, by all that allies and all that attracts and all that inspires love and pride, abnegation and joy, strength and expansion of a man's soul towards other men when feeling themselves inseparable members of the large family, participants of its glories and responsible for its future. Localism and provincialism, mere stages of the evolution of patriotism, proving while they are predominating, the embryonic state of the inner circulatory organ and that of outer communication and which therefore put in relief the urgency of providing its most rapid development in order to satisfy the necessity of consolidating the unity of the nation.

Up to 1876, the circulatory system was represented by the only railway that, starting from the port of Veracruz, ended in the capital, with a branch way to the town of Puebla and by primitive, accidented and ill attended national causeways towards the interior, hardly enabling a paltry, slow and burdensome traffic. The railway inaugurated four years before, measured with its branch line, a little more than five hundred kilometers; and notwithstanding its relative smallness, in proportion with the national territory, began to exercise a perceptible influence on the zone it crossed, where it developed activity and move-

ment evidenced by the cashings of the Enterprise reaching already at that epoch three million pesos a year and with a marked tendency to a progressive increase. The affluency, therefore, of foreign capital towards lucrative investments must run and really ran to the nearly, unexploited field of the construction of the large arteries and the inner vascular net claimed by the evolutionary state of the country with the most pressing urgency. Capital came in so considerable a mass and in so continual a current flowing over so favourably adequate a ground that the transformation became effected with astonishing swiftness. In but two decades, from 1881 to 1900 the railway net grew from five hundred sixteen (516) kilometers to fourteen thousand eight hundred sixty (14,860) kilometers and the annual produce of the exploitation rose from three million to forty seven million one hundred fifty thousand pesos (47,150,000). The steel bands linked in so short a period, towns and fields, vale and mountain, the low coasts washed by the seas, and the highlands of the great Plateau; they penetrated into the deep kidney of inner production, offering easy outlets towards all the centres of consumption and crossing deserts, abysses and frontiers, put into contact the great latent energies of an organism craving for life with the powerful stimuli of the universal communion.

It was but natural that such a dynamogenic injection of hundreds of million pesos invested in the construction and equipment of the vast circulatory network, not only raised the temperature of the internal activity to a nearly feverish degree, but that, its effects repercussing in all the tissues and even in the nuclear cells best provided with nutritive and stimulating elements

because of the greater intensity of the vital function, should give rise to a radical change in the direction of public conscience, deviating it resolutely from the sterilities of the political panaceas and steering it towards the fecund fields of organised pacific and regenerating labour. From this profound modification in the social aspirations there emerged, as from a near source, the smiling, peaceful and fair period of the present industrialism, whose development and importance, scarcely begun, can already be surveyed with greater clearness observing the ascensional curve of all the departments of public wealth.

A very remarkable increase in the arrival of ships to Mexican ports has been noted during the last fifteen years of the century just passed by. The signification of the ascensional movement in the amplitude of the communications with the outer world stands out when we cast a rapid look upon the state presented in former times by that so important aspect of the life of relation. In 1735, when the «Fleets» were still existing, eighteen ships entered the ports of New Spain; in 1785, eighty; in 1795, ninety six; in 1819, one hundred forty one; in 1850, eight hundred thirty nine (1); in 1875, two thousand six hundred, and in 1885, four thousand four hundred twenty five. In the second half of this last decennial the transport of railway construction materials produced an extraordinary increase of the bulk of maritime traffic; but since 1885, the land transport by the lines already constructed or those being constructing,



Apam plain. Chimalpa estate (of pulques), property of Lewis Lavie. Main façade

(1) Lerdo de Tejada: Documents annexed to the *Report on the exterior commerce of Mexico*.

had suppressed a large part or in its totality, that additional cause and nevertheless the amount is constantly and regularly increasing until the number of the ships entered into the ports of the country reaches the figure of «six thousand» in 1899-1900; which demonstrates that the progressive movement does not obey transitory circumstances but is due to an organic and profound development in the nation's commercial power.

Indeed, the produce of the Maritime and Frontier customs duties which in 1825 were \$ 6,708.104; in 1835, \$ 5,895.068; in 1845, \$ 5,814.045; in 1855, \$ 8,096.208, and \$ 6,854.061 (1) in 1865, has progressively risen since 1881, until attaining the figure of \$ 27,696.970 in 1900-1901, this corresponding to an increase of almost fourhundred per cent in the foreign traffic, i. e. in the nation's capacity of buying and selling, as may be verified by a comparison of these statistical statements with those of the former period. Since Independence up to 1851, the total value of the imports through all the havens and customs houses of the Republic was of . . . . . \$ 15,000.000  
and that of the exportations, of . . . . . » 16,000.000  
Resulting a movement of (2) . . . . . \$ 31,000.000

From that year to 1876 in which the advancement of the country through the work of the Reform, became already perceptible, importation rose to . . . . . \$ 28,000.000  
and exportation, at an average, to . . . . . » 32,000.000  
Forming a total bulk of foreign commerce of . . . . . \$ 60,000.000

But since the year 1893 the value of the importations shows an ascendant curve which starting from . . . . . \$ 30,287.489 (gold)  
Reaches in 1894 at . . . . . » 34,000.440 (dit.)  
in 1895 at . . . . . » 42,253.938 (dit.)  
in 1897 at . . . . . » 43,603.492 (dit.)  
in 1898 at . . . . . » 50,869.194 (dit.)  
in 1899 at . . . . . » 61,318.175 (dit.)  
And in 1900 at . . . . . » 65,083.453 (dit.) (3).

Which, converted into Mexican silver money at the exchange of 220 are equivalent to. \$ 143,183.596

The exportation in its turn amounts:

in 1893 at . . . . . \$ 79,343.287 (silver)  
in 1894 at . . . . . » 90,854.953 (dit.)  
in 1895 at . . . . . » 105,016.902 (dit.)  
in 1896 at . . . . . » 111,346.494 (dit.)  
in 1897 at . . . . . » 128,972.749 (dit.)  
in 1898 at . . . . . » 138,478.137 (dit.)  
in 1899 at . . . . . » 150,056.360 (dit.)  
And in 1900 at . . . . . » 148,659.001 (dit.) \$ 148,659.001

Thus resulting a yearly commercial movement of. . . . . \$ 291,842.597  
a sum whose eloquence needs no commentary.

Of course, this most notable increase of the foreign commercial power of the country must correspond to a parallel increase, at least, of home production, since the exportations, in general terms, are but the surplus of home supply and the bulk of the importation is determined by the capacity of purchasing foreign merchandise on the part of the consumer. Thus, for example, the national agriculture which, from Independence up to 1881, scarcely attained to satisfy the necessities of home consumption, was unable to destine to exportation more than the insignificant sum of from four to six million pesos in

(1) Matias Romero: *Finance Report* of 1870.

(2) Lerdo de Tejada: *Exterior Commerce of Mexico*.

(3) Statistical Bulletin of the Ministry of Finance.

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AGRICULTURE

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State of Morelos  
Sugar-cane plantation of Atlihuetzán









woods, colouring substances, hides and life stock, several fibres and a few articles of the varied littoral zone; while, from the year 1892, the contingent of exported values is already of. \$ 26,680,018

In 1893 of.	»	28,783,605
in 1894 of.	»	31,995,780
in 1895 of.	»	31,465,640
in 1896 of.	»	35,876,907
in 1897 of.	»	43,632,437
in 1898 of.	»	49,576,789
And in 1899 of (1).	»	61,573,187

that is to say, 41 per 100 of the total exportation at the end of the century and more than tenfold its own amount during the period anterior to the two last decades. The particular statements for every one of the different branches of agricultural production in the same space of time show that, in the whole, the general curve is constantly ascending, in spite of the deep and steep deflexions followed by elevation not less irregular from one year to another.

The mining industry, for its part, which until 1880 produced as a yearly average, twenty eight millions gold and silver raises its level

to \$ 31,565,465 a year in the quinquennial period 1881-1885
to » 39,841,640 » » » » 1886-1890
to » 54,049,492 » » » » 1891-1895
and to » 60,983,668 » » » » 1896-1900 (2).

However, adding to the gold and silver the value of the other metals extracted and worked (3), the production rises

to \$ 60,000,000 in 1897
to » 72,000,000 in 1898
to » 84,000,000 in 1899
and to » 92,000,000 in 1900,

showing once more that social activity experiments a reaction at the bottom, infusing movement and life into all its manifestations.

And so it actually happens. The manufactures and remaining organs of the home industry which still in 1877 «were in full decadency scarcely trying to get out of their past marasm (4),» shoot up or develop and renew with such energies that in a few years their influence becomes palpable and manifest in the ascending tide of the general wealth. The manufactures of cotton spinning, weaving and printing rise from 118 in 1896 to 135 in 1900-1901; they soon transpass the limits of consumption, they overflow the markets with the continuous affluency of an exuberant production and forced by an indefatigable competition to extraordinary perfection and cheapness in the elaboration of the articles they offer, they affirm their expansive capacity to face beyond the national frontiers the rivalry of the similar foreign product, the aperture of new zones tributary of their vast activity becoming urgent. Beside them, the manufactures of beer which being almost without a representative in 1880, rise to 72 in 1898; those of tobacco which increase to 721 and those of spirits which reach the notable figure of 2,217 in 1900, not only thrive and tend to multiply, but having already dislodged the foreign ware from the territory of this country, amply satisfy its progressive needs and begin to form, especially those of that aromatic plant of our tropical plains, a powerful current of mercantile life with the increasing exportation of the fruits of its manufacture. And lastly, the manufactories and refineries of sugar, with more and more perfect

(1) Statistical Year-book of the Ministry of Encouragement

(2) Statistical Year-book.

(3) Chiefly copper and lead.

(4) Report of the Ministry of Encouragement, 1896, p. 44.



and productive fittings and machinery; those of paper, crystal, wedgewood and china; those of jute, he-neguen, worsted and other fibres; the large foundries and metallurgic works: all those varied denominations of the division of social work which every day is specialising its applications at the rate civilisation's evolutionary process is refining and depurating, subtilising and elevating the infinite craving for science, welfare, wealth, satisfactions and commodities that stirs the soul of the modern peoples, germinates and flourishes and fructifies, as by witchcraft, on this fertile soil; at the heat of that intense hatching of virile will irradiating from all the national organism towards life and thrift.

The ascensional movement gets uniformly diffused in the social mass, stimulating the integration of its structure and the birth of additional organs required by the increasing heterogeneousness of the physiological functions. The vaso-motors that regulate the distribution of the circulatory current, provoking congestions or contractions of nutritive sap where the needs of the vital labour claim the increase of the normal energies or their accidental reduction, were hardly embryonic, and it may almost be said, non-existent, even in 1880. A sole Bank, or rather, a mere branch-office of a foreign banking house, without, a known capital or operations regulated by the laws of the country was all the vaso-motor apparatus of its localised and discontinuous circulation; but from that date to the end of the century, twenty Banks of federal concession spread over the territory quickly filled that void with so satisfactory results (1) that by themselves alone they evidence the great vigour of the industrial and mercantile development whose regulator organs they are. Those Banks with a social capital of \$ 61,000,000 and stocks in cash and values that make their active exceed \$ 200,000,000, are the most important complement of the stout and staunch structure of the new national organisms, thanks to the reconstruction of its whole system on the solid bases of work and industry, only fountains of actual progress and of greatness and powerfulness.

But where all that astonishing evolution is culminating, is in the general resultant of the propelling forces of every active group and of every regulating organ; in the synthesis of the process of cooperation of every integrating element, of every gland, of every tegument to the general expense of collective life; to the common fund of reserves of energy to provide for the so varied accidents of the great struggle for existence they are subjected to, like to an inexorable law, the individual organism as well as the collective one; in the development, indeed, of public wealth, measured by the thrifty state of national finance and rendered patent by the progressive fecundity of impost. From Independence to 1868 the yearly average of the income of Treasury was \$ 10,457,291 (2) and that of expenditure considered necessary for the public services, \$ 17,339,427; whence there resulted an average deficit of \$ 6,882,136, which continuously accumulated during that period produced a floating debt of more than \$ 300,000,000 (3) represented by unpaid salaries, by unfulfilled engagements, never satisfied bonds (4) jeopardising the life of Government and even the autonomy of the nation. However, since 1870 income has already reached \$ 17,246,066; and, although still with abrupt deflections, it continues and reflects the general ascending movement of the industrial period initiated in the last decade rising:

to \$ 37,391,804 in 1890-91	to \$ 50,521,470 in 1895-96
to » 37,474,879 in 1891-92	to » 51,500,628 in 1896-97
to » 37,692,293 in 1892-93	to » 52,697,984 in 1897-98
to » 40,211,747 in 1893-94	to » 60,139,212 in 1898-99
to » 43,945,699 in 1894-95	and to (5) » 64,261,072 in 1899-900,

(1) The shares of the emission Banks are quoted with strong premiums on the market. Those of the National Bank are paid \$ 294 per \$ 100 effective capital; those of the London and Mexico Bank are quoted at \$ 180 over the same type, etc., etc.

(2) Mathias Romero. Finance Report, 1870, p. 835.

(3) Mathias Romero. Finance Report, 1870, p. 870.

(4) «The Finance question is now and will continue being, Mexico's vital question. On its solution there depends not only the existence of the Republic as an independent nation, but her progress or decay in the future. The main difficulty lies in the deficit. It may be assured that from Independency up to now the governments have not been able to cover their expenses but when they had foreign supplies.» Ibid, p. 865.

(5) Statistical Bulletin of the Ministry of Finance.

wherewith it was not only obtained to balance the progressive expenditure of all the departments of Administration which in 1899-1900 amount to \$ 58,319,933, but to liquidate every year, since that of 1894, the Treasury account with a considerable surplus which, in the one fiscal period of 1900 attains at \$ 6,000,000, in spite of the suppression, since 1895, of the enormous excise tax that under the name of *alcabala* (excise) formed an important item of general impost.

Thus, the uniformly accelerated velocity of the simultaneous motion of all the factors of wealth in the nation's large organic mass has allowed national labour, in little more than a decade, not only to support with ease the continuous growth of public expenditure, from twenty millions it was unable to balance in 1870, to fifty eight millions it paid in 1900, filling up in one stroke the legendary abyss of the deficiencies, but to strengthen the admirable fecundity of the impost to the length of enabling it to serenely face the incessant expansions of its normal investment towards the illimitated fields of the great enterprises of advance and improvement proper only of powerful organisms ordinarily and amply developing within a solid prosperity.

Casting a retrospective look at the Mexico of yesterday, at the Mexico of half a century ago and comparing the same with the Mexico of to-day, we cannot but feel the most cheerful trust in the future of the nation.

## CHAPTER IV

### NATIONAL AGRICULTURE. ITS IMPORTANCE AND ITS NEEDS. END OF THE STUDY OF THE AGRICULTURAL EVOLUTION UP TO THE ACCESSION OF THE XX CENTURY

THE ascensional movement of all the branches of wealth we have but just described in the anterior chapter as the final resultant of the social energies set in activity by Independence and Reform in order to suppress the two great parasitic factors of colonial origin; after the long transition period during which the new organs of the structure of the national aggregate became consolidated and strengthened, it also comprised in general terms, the development of agricultural industry until showing it contributing, on one hand, with more than sixty million pesos to the balance of the Republic's foreign commerce, in the last year of the XIX century; and on the other hand, corresponding to the needs of a population considerably increased in the period of peace and prosperity into which the nation has entered. But if we attentively examine the statistical statements, we note at once that while all show a remarkable tendency towards increase, the special ones of agriculture and the industries derived therefrom, offer such oscillations that in some cases, the figures descend below the normal level revealing the existence of intense perturbing phenomena working in opposition to the progressive impulsion dominant in the country.

Thus the production of maize which in 1891-1892 ascended to \$ 102,000,000, vent down in the following year to \$ 49,000,000; rises to \$ 75,000,000 in 1893; reaches \$ 86,000,000 in 1898, and descends to \$ 72,000,000 in 1899-1900. The frijol (bean) with \$ 4,500,000 in 1891-1892, goes down to \$ 1,750,000 in 1892-93; leaps to \$ 10,000,000 in 1894 and to \$ 12,000,000 in 1895, to abruptly descend to \$ 4,500,000 in 1898 and to rise once more to \$ 11,500,000 in 1899. Cotton, from \$ 4,000,000 in 1891, rises to \$ 10,500,000 in 1896 and to \$ 14,000,000 in 1897, to descend to \$ 5,000,000 in 1899; and, not to multiply these statements, alcohol rises from \$ 3,000,000 in 1892 to \$ 22,700,000 in 1894, to abate to \$ 5,000,000 in 1895 and to leap to \$ 18,000,000 in 1899. These wide oscillations measured by value, are still wider and deeper, if measured by volume, since the one and the other follow an exactly inverse proportion; therefore, their effects, in the common mass of subsistencies and industrial provisions are still more sensible and harmful. The crop of maize, for instance, which in the year 1891, had an average price of \$ 1.25 a hectolitre, corresponds to eighty one million hectolitres; but that of 1892, sold at \$ 3.00 the same measure of capacity, is equivalent to only sixteen millions and a half hectolitres; a quantity so small for the po-

pulation's most imperious needs that the frightful spectre of famine, with its habitual retinue of calamities, covered with misery and desolation the whole territory in that year and the following.

Even in the figures that most approximate the normal production of the decennial period (57,000,000 hectolitres of maize at an average price of \$ 1.50, that is to say \$ 85,500,000) we note such a scantiness of agricultural labour to supply the increasing exigencies of the general development that we cannot but feel some disquiet at the perspective of the consequences which those sudden descents and this precarious condition of the principal of our industries might occasion in the evolutionary process of our country; for reckoning at four hectolitres a year the minimal consumption of every one of the ten million inhabitants for whom maize is the necessary and almost unique food and at half that quantity at least, that requisite to feed and fatten the beasts of labour and for the supply of the towns and villages, the manufacture of alcohol of that corn that had begun to be carried out on a large scale, must disappear or be maintained in prejudice of the production of meat and animal greases, being scarcely sufficient for the maintenance of human life in its immediate use and incompletely for the needs of the rearing of life stock. An identical state of incertitude and atony agriculture shows in the other branches of alimentary products and therefore, from year to year, the anxiety in view of the state of the crops increases and government interference becomes more frequent either granting foreign corn free entrance into certain localities or into the whole country, or making direct purchases on the foreign market, to supply the temporal deficiencies or to abate the excessive prices which an under-normal provision raises beyond the possibilities of the popular mass.

Thus, if it is undeniable that national agriculture, on the whole, has partaken of the common progressive movement of the country, it also is a fact that its advance does not show the relative proportion of swiftness and intensity, nor is it uniform, regular and continual as it corresponds to the functional life of so important an organ; whereby it appears, and so it really is, lamentably aback in the line of advance of all other manifestations of the social energies and even more, at incommensurable distances from the present state of that great industry, to-day eminently scientific, of the remainder of the civilised world.

The actual advancement, the positive advance of the national agriculture has become localised in several of its derived industries and in a reduced group of tropical products whose cultivation stimulated by exterior more or less transitory circumstances that have liberated it from a fearful competition and by the enormous exportation premia due to the monometalism gold of the international exchanges, has come to be highly remunerative. Among the former, the saccharine industry (not including the alcohol manufacture which forms an industry by itself) has doubled its products in ten years by a firm and constantly accelerated process; starting from \$ 15,000,000 in 1892, it rises to \$ 16,000,000 in 1894, to \$ 24,000,000 in 1896, to \$ 26,000,000 in 1898 and to \$ 30,000,000 in 1900. Among the latter which partake at the same time of an industrial character, henequen with a value of above thirty two million pesos, coffee, with twelve, and tobacco, with nine, represent by themselves alone 87 per 100 of the total agricultural exportation; and if we aggregate that of live cattle developed by the same causes, the proportion ascends to 92 per 100, reducing the permanent exportations to the old figure of from four to six million pesos in every year.

It is obvious, therefore, that at the bottom and in truth, the evolution of agriculture, although on the whole it reveals progress, is unstable, accidental and of an aleatory character.

The three million and a half of human beings that live in the cities, towns and villages of more than four thousand inhabitants, comprise the urban, mining, mercantile and industrial population, in one word, of the country. They include all the public and private services of government, justice, police, national defence. They fill the liberal and scientific, the religious and artistic professions, the offices and employments. They, at length incarnate and personify the varied and complex social energies occupied in the transformation, adaptation, transport and distribution of the raw products and the first materials which the collective organism needs for its existence, for its growth, for its vigour, for its expansion.

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**General view of the town of Puebla**









And in spite of its reduced mass, of its small global number, and of the still smaller one of its adult and really active elements, they have been able to give the Mexican fatherland in the brief lapse of two decades, greatness and powerfulness, wealth and welfare, security and trustfulness in its destinies, courageousness and viril willingness for its progress.

The remaining ten millions compose the rural population of the Republic.

This great bulk of producing force, applied to a territorial surface of two millions of square kilometers, where all the climates and all the fruits of the planet are to be found ought to make Mexico an essentially agricultural and eminently exporting country; because reckoning the fifth part of that figure as the number of adults apt to dedicate personal labour to the field exploitations and the industries relationed therewith, the likely result of the work of two million labourers, it seems, ought to be proportional to the known result of other branches of production wherein the human element is also occupied, and therefore: if mining with a staff that scarcely reached eighty thousand operatives is able to produce, and actually produces, commercial values exceeding \$ 80,000,000 a year; and if the textile and manufacturing industry with only twenty five thousand hands has enough to exceed the demands of consumption and to render the market plethoric, national agriculture with that enormous army of workmen ought to show positively colossal crops, almost fabulous ones or at least, very superior to all the needs of home demand and with most ample margins for a considerable exportation.

Why is quite the contrary happening? Why has agriculture an almost exotic and artificial character, to the length not to be able to live without the protecting wall of the customs tariff and without the prohibitive defence of the white metal's depreciation? Why, in spite of that enormous national subvention which favours the rise of the prices of the subsistencies, agriculture does not succeed in satisfying the demands of raw material for the home industries and not even to cover with amplitude the food needs of the population assuring it against the fearful oscillations which, to say the least, clog the free development of its real prosperousness?

These questions are of so profound a nature, so tightly linked with the divergent evolution of the great colonial factors, to such a degree impregnated with the racial, sociological and political characters imposed by the conquest, developed by the systematic parasitism and confirmed by the long period of public disturbances of the emancipated nation that, not taking them into account, not penetrating into their bottom and transcendancy, it would be impossible to explain them, not to resolve them, of course, by the inexorable action of those causality laws whose affluents as numerous as complicated, yield, notwithstanding, a preponderant place to the human element in the succession and linking of the social phenomena.

The brief notes we are going to exhibit, will perhaps cast some light on the main elements of the complex problem which the present generation is called to study quite preferently, in order to resolve it in the most favourable way for the large interests, for the vital interests of the national organism seriously jeopardised by the precarious and aleatory state of its agriculture.

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By a depressive selection maintained in exercise from the conquest to our days the large bulk of rural labour was, and continues being, confided to the population most refractory to all the stimulants of modern progress and most distant from the general movement; the indigenous population whose regressive evolution is not yet come to a stand still, and to part of the mestizo, whose persistent racial characters and illiterateness are better accommodated to the intermittent labour on the fields than the regular and continual occupation in the workshop or manufactory. As field work does not request from man more than the use of his muscular force; as he is not employed but for a self-acting motor in operations rendered automatic by repetition and as the hire or salary has become dependent on the minimal cost of repair of the vital energy that is supposed to be spent during an invariable and inflexible standard of hours; the labourer, treated alike, and perhaps less heeded than the other live motors, his necessary auxi-



liaries, does not exercise or develop his own intelligence and faculty of observation, nor does he collaborate with the landowner to render the general result more useful, nor does he experiment a deeper sting to fulfil his engagement than that of sparing as much as possible his personal activity and fatigue; the necessary consequence of that system being the scanty effective produce of the labour, the automatism rather than routine of the working, the insufficiency of the hands at disposal, the impossibility of any innovation and the enormous cost, real and positive, of cheap labour, which obliges to raise immoderately the prices of the subsistencies; and this reflowing in its turn on the immutable salaries incessantly begins the cycle of the more and more apathic and insufficient manual labour.

If from the mass of rural population which is the instrument of agricultural labour, we pass to look at those who direct or manage it, we shall find that the same depressive selection has led to be the head of the business not the aptest or best prepared, but, as a rule, those whom heritage, atavism, the weariness of life or the consciousness of being useless for any other kind of existence in the great struggle of activity stirring modern society, opens the doors to the field as a refuge where no other paraphernalia are needed than a certain dose of good sense, resistance to the fatigues of horsemanship and taste to greet on foot aurora's first smiles, in order to exercise a salutary vigilance over the details of the day's work.

Enterprises or business established on such conditions of the directing and working staff, may, certainly, in single cases and special circumstances, show examples of durability and even of relative prosperousness; but considered as a system, generalised as a type of organisation of a big branch of the social labour working up the natural resources of the country, they are so very opposed to the most elemental laws of industry that their mere existence is a prodigy that fascinates and makes one despair; or it must be explained by the action of powerful auxiliary forces withdrawn from the national reserves artificially to sustain what without that help would not be viable. Better utilisation of the disposable medium, and greater efficiency of the unity of manual labour in the unity of time, whence there results the most perfect collaboration of capital, intelligence and labour for concrete or special aims of all industry, of all human undertaking, such are the fundamental bases. The former requires science, that is to say, as vast as possible a knowledge of the circumstances, conditions, aptitudes or capacities of the natural medium. The latter needs the opportune applications of the methods and inventions which developing the intellectual faculty of the operative increase and multiply his natural productiveness. The former claims technical breeding from the manager; the latter imposes the highest wages, the most elevate remuneration for the workman; and combining both elemental principles, joining both necessary bases of any industry and any enterprise, we obtain the *system of economical exploitation*, the modern scientific system, whose result, to-day axiomatic over the whole world, paradoxical perhaps for some persons, is that *at the rate the remuneration of the workman increases, the cost of the object produced diminishes*.

Our agriculture uniformly pursues the contrary system, the system of cheap labour. Our farmers eagerly crave the reduction of the salaries, either paying them in kind and at higher prices than those of the market, or by ingenious mercantile combinations of credit opened for objects of consumption which at the weekly balance of the field labourer is settled with a not despicable benefit for the landlord; or with other artifices most common in rural partnership by which at the end of accounts important discounts are obtained over the nominal value of the retributions for work. The consequence ought to be, and effectively is, imperious, unavoidable, manifest, although it also may seem paradoxical: *To a low salary there corresponds a poor agriculture and a dear product*; so dear that, without the double protection of the high price of gold and the high customs tariff, the foreign products, with tenfold higher salaries and freights for thousands of kilometers, would instantaneously choke the home product. Thus, the country pays its agriculture a yearly subvention equivalent at least to the premium of gold and the amount of the importation duty for the total volume of its products; in order that it may exist, and still in precarious conditions, that big industry which in the present state of its mechanism, seems to derogate all the laws of balance and real life. But this enormous subsidy and that alarming deficiency are not

the only results of the system of cheap labour: the country's capacity of absorbing a population of foreign extraction has become practically nullified, spontaneous colonisation being rendered impossible, in spite of the notorious abundance of natural resources and the vast extent of the territory; for although a single individual provided with aptitudes above the mere muscular work, finds great opportunities to gain a livelihood and to thrive, considerable groups or masses of immigrants neither find abundant markets where to sell their labour at remunerative prices nor are there fields in adequate conditions to be profitably worked without the help of a large capital. This result, not generally understood, largely explains the fact that agriculture exonerated of all competitions of foreign origin, has neither been obliged to face that of home enterprises superiorly organised nor experiments, for that very reason, the necessity of all excessively protected industries, to reform its methods accommodating them to the new exigencies of national progress.

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Up to fifty years ago agriculture, all over the world, kept a state more or less similar to that it now shows on our territory. Considered as an occupation for which no specific preparation was necessary, the practice of processes transmitted from fathers to sons, the tradition that such grounds were adequate to such crops and such climates to such plantations, were sovereignly reigning in the proceeding of the farmers who looked with indifference or pityful disdain at the attempts to apply to the cultivation of the land scientific principles and improved methods. But the marvellous development of the industrial movement that revolutionised every system of work in consequence of the great inventions realised in the second half of the XIX century; the most swift and unprecedented increase of the planet's population and the immense widening of international commerce due to the ease, promptitude and cheapness of the means of communication and transport, caused, on one hand, such a growth in the bulk of the normal demand of articles of subsistence and of raw materials for the needs of manufactories, and on the other hand, provoked such an affluence of foreign production coming from new or more favoured countries that, the protecting tariff resulting soon insufficient or too onerous against foreign competition and the national production unable to satisfy the home exigencies unless it raised in an extraordinary manner its present produce which was not possible with the historical methods, recourse must irremissibly been had to scientific investigation to find the solution of the double and great problem: first, to obtain from the same surfaces progressively larger crops and with less cost, without exhausting the soil's fecundity, but increasing its fertility; and second, to turn to profit the sterile territory making its cultivation practical and advantageous.

Science satisfactorily answered the call, investigating the problem with the help of all the lights and energies of its various departments, physical and chemical as well as biological and mechanical until at last it created a new agriculture, an agriculture so distant from the old empiricism, that, in truth, to-day it is the illimited field of practical application, and lucrative by excellence, of the most useful inventions and the most solid exact knowledge boasted of by the present mankind.

The study of the soil and its relations with the life of the plants; the discovery of the principles of nutrition and of the methods by which they are ministered them; the revelation of the fertilising agents and of the way how they influence the product of the crops; the analysis of the same in order to know what they really take from the ground and the manner to replace and increase their natural reserves, were so many chapters, at the same time as surprising triumphs of the great work of the chemico-biological sciences about the fundamental, although not unique, of the several aspects of the problem.

To Liebig and his collaborators, in the first term, the honour is due to have experimentally demonstrated, that the soil is but the *medium* wherein other agents are elaborating the food of the plants; that the organic matters are not adequate to their nutrition; that of the elements composing it only 2 per 100 derive from the soil and the remaining 98 per 100 from the nitrogen of the atmosphere, in the first place and from water in the second; and that, nitrogen forming 80 per 100 of the aerial surrounding, the

alimentary reserves are practically illimited; there not existing, therefore sterile grounds, because all are apt, or may acquire that aptness, for vegetation by only endowing them with the means to elaborate the alimentary solutions of the plants in the state most favourable for their special class. Parallely with these discoveries whose importance needs not be enhanced, the invention of the mineral or fertilising manures whose fundamental elements are potash and phosphoric acid in combination with nitrogen, came to verify, by the considerable increase of the crops, that the radical transformation of the agricultural practices was an acquired fact for the benefit of mankind, for, thanks to the same, we activate and favour the chemical reactions that disaggregate the mineral substances and decompose the organic ones helping to form the watery solutions or to replace the weakened ones, for the nutrition of the vegetables. However, the most brilliant of the triumphs of the numerous investigators about the actual agents of the aptitudes of the soil in relation to the plants and the increase of their fecundity, was revealed to the *Naturforscher-Versammlung* (meeting of the German naturalists), in the memorable sessions of September 1886, by Professor Hellriegel who demonstrated with an evidence universally accepted by the scientific world, that the nodules of the roots of the leguminosae are formed and inhabited by bacterial colonies whose symbiosis or vital function consists in elaborating and ministering the plants their food taking it from the gratuitous and inexhaustible provision that forms the eight tenths of the terrestrial atmosphere. This surprising fact to whose immediate practical application the incredible development of the production of beet root in Germany was due and the not less admirable flourishing of its saccharine industry going so far as to destroy the French competition, to dominate on the markets in Europe and to come to fight against Cuba and the Hawaiian Islands, on American territory, became generalised with such an intensity and so prodigious results that it soon got transformed into a big industry and into a new mercantile branch. To-day, in Germany they prepare commercially and on a large scale, pure cultures of several varieties of nodular bacteriae, especially for every kind of leguminous plants, known on the markets under the name of *Nitrargines* which are destined with more and more success to the increase of agricultural production and to the improvement of their quality.

But investigation darted on that way, did not stop there; a short time afterwards, at the beginning of the century's last decade, other micro-organisms were discovered that prepare and actually manufacture the nitrogenous solutions serving as food for all plants in general, including the other leguminosae that have no bacterial nodules in their roots. Those micro-organisms, belonging to the genus *Bacillus* *Ellenbachensis alpha*, commonly known by the name of nitrifiers, were isolated and cultivated by Winogradsky, in 1890, in broths formed by salts and mineral carbonates, destitute of any kind of organic matter, with so surprising results when they are directly inoculated into the soil, that the large demand of agriculture has converted their commercial preparation into a highly lucrative business, their use becoming diffused everywhere under the denomination of *Alinites*.

The economical benefits already obtained are so marvellous that, although it be doubtless that new discoveries will be made within these most dilated horizons, enough is known to light that cycle of universal life which, beginning by the mineral elements of air, water and soil, experiments its first transformation in the plant in order to reach the most lofty form of organised matter in the living animal. They demonstrate that the component parts of food, both of plants and of animals, after serving the complete functions of one or both organisms are given back, integrally and in their primitive condition of mineral substances, to the ground, the atmosphere and the water, by fermentation, putrefaction or combustion, to begin anew and unceasingly, the eternal process of life; and they, lastly, in their practical aspect, have given the husbandman, with the science to keep up the fertility of his soil, in spite of the continuous extraction of the agricultural crops the sure means of increasing them and progressively improving them, because they teach him at the same time as the manner to develop the number of the bacterial colonies and of the specific bacilli, that of multiplying their activity in the elaboration of the food of his plantations. The present agriculture, so transformed by the inestimable conquests of science, only asks nature for the normal meteorological conditions and a sufficient surface to effectuate sowing

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**Michoacán. — Pátzcuaro Lake**

(PHOTOGRAPH BY WMU)









and planting, it being already a fact realised at our doors, that with the intelligent use of the scantiest pluvial precipitation, millions of hectares of the great American desert, up to now classed as absolutely arid, are becoming opened to a profitable cultivation (1). Science, in sum, has endowed agriculture with inexhaustible stores of food for plants which formerly were useless, inaccessible and ignored and besides it has fully opened the way to render more fecund, in an illimited manner, the same soil searing therewith and for ever, the spectre of famine which so often has threatened the future of human life on Earth (2).

But at the same time as the chemico-biological sciences resolved in so astonishing a manner the problem of the indefinite increase of the capacity of production of the soil, without exhausting, on the contrary, improving its fertility and endowing therewith grounds reputed sterile, the mechanical and physical sciences accumulated, with inventions of the most palpable practical utility, the means of giving a satisfactory solution to the other not less interesting part of the same problem, that of obtaining the result that «to bigger and bigger crops there corresponded a smaller and smaller cost of production.»

In this matter the advancement realised during the last thirty years are so very considerable that not even in the manufacturing industries a greater perfection has been attained in the double meaning of simplifying work and rendering it more fecund (3). Unable to mention, albeit at large strokes, the series of improvements which have been gradually introduced into agricultural machinery, it will be enough for us to say that the mechanical apparatus to sow maize, wheat, rice, potatoes, etc., the automatic mowers, sheaving-machines, thrashers, the cotton gins (4), the hay and straw lifts and presses, the hatching-machines, creamers, sterilisers, beaters and other dairy implements; maize-reapers, shelling-machines, stubble-machines and maize cane mowers, not reckoning the various collection of metallic instruments to clear and cultivate the land which have become specialised for every kind of labour, have all together affected modern life in such a manner that the cost of food and its improved quality have been allowed to conciliate with a greater and greater abundancy and cheapness.

In the last years, the evolution of the thermal and electrical motors which approach the limits of the highest possible perfection has given rise to the practical and more and more generalised use of the large agricultural self-acting engines. Those machines adapted to running over uneven surfaces with as much ease as a locomotive over the rails, draw from sixteen to twenty ploughs thirty centimeters deep and besides, pulverisers or sod breakers, sowing machines which deposit the corn with the necessary dose of fertilising matter or without the same; harrows that cover the seed and rollers that level and dress the ground; so that in one sole operation and with a very small staff of hands the soil is grubbed, pulverised, sown, covered and dressed in an extent of from thirty to forty hectares a day by every dragging engine. When harvest time comes, the same automobile moves a train formed by self-acting mowers of nine or ten meters cut and provided with lifts that cast the swath to the thrashing machine that leaves

(1) The immense territorial extent reputed absolutely sterile which confining with our frontier bears the names of Arizona and New Mexico, with part of Texas and Colorado in the United States of the North, is being converted into actual gardens, into fields of lucern, corn and pulse and into splendid orchards. The vales of river Salado and Gila, of Pecos and Rio Grande, are now important centres of agricultural exploitation which every day is extending with marked swiftness.

(2) The benefits bestowed by science on agriculture in general, are surpassed by those of the derived industries, such as cattle rearing, dairy, the production of starch, sugar, glyucose, cellulose, artificial silk, wine, beer, alcohol, oils, soaps, tannins, paper, manures, etc., etc., whose immense development has so much contributed to universal prosperity, but whereof we cannot possibly speak here.

(3) According to the minute investigations of the United States' Agricultural Department, the modern field implements have reduced the time necessary to produce a hectolitre of wheat, from 171 minutes for every man with a team of two horses, to 4 minutes by the same workman and with a saving of 400 per 100 in the cost of production of the hectolitre.

(4) It has been experimentally demonstrated that a clever and practical worker needs ten hours to gin a kilogram of cotton bolls. A ginning machine clears in the same time from 600 to 2,000 kilograms of bolls, according to the size and fineness of the fibre.



the corn clear dropping it on the following cars where a workman receives it in sacks which another ties and lets run by a band to the last who gathers the product ready for the market. Another automobile joins and links the cars loaded with the result of the day's labour and carries them to the embarking stations or to the store granaries. This complex of mechanical work, this amazing combination of modern machinery is likely to be, in its kind, the greatest scientific marvel of the XIX century and its benefits have become so sensible that nobody can compete to-day in cheapness of production with those who have the luck to possess it and to know how to use it.

\* \* \*

The influence practically exercised on modern agriculture by all that admirable complex of discoveries and improvements very soon extended so far as to obtain so complete a transformation of its administrative methods in the most intelligent commercial system, based on the utilisation of the secondary products formerly wasted or despised that to-day the exploitation of the fields is an actual manufacture whose general expenses do not weigh upon the crops but are obtained from accessory transformations, the former resulting a net rent or liquid utility for the instructed husbandman. Thus, among others, the cultivation of cotton and beetroot have given rise to the development of great enterprises of cattle rearing and dairies, thanks to the rich food supplied to the agriculturists by the paste of the seeds of the former and the pulp of the said root, after extracting the oils of the former and the saccharine juices of the latter in the diffusion batteries. But perhaps, because they regard us nearer, the numerous commercial articles derived from maize will give a clearer idea of the great utilisations which agricultural labour is now obtaining from what might be called waste matter. Omitting the numerous preparations of that corn for human food, the dry leaves of the maize cane conveniently dressed to suppress noise and to increase their flexibility are largely demanded by mattress makers; the marrow of the stubbles in a pressed state is utilised as a coating between the hull of the warships and the plates of their armour whose perforation by the projectile is automatically shut in virtue of its enormous expansibility, and it also serves for the manufactures of silk paper, of the finest varnishes, of pellicles for photographic negatives, of sedaline or artificial silk, of the most perfect smokeless powder and other explosives; the olote or cob of the spadix and the exterior bark of the stalks yield alimentary cakes for animals, varnishes, sirops, oils which mixed with the India rubber of commerce are used in the manufacture of artificial rubber for waterproofs, oil cloth, tires for coaches, bicycles and automobiles and many other uses; and finally, to elaborate glycose or grape sugar and alimentary glutens.

There is no effort necessary to understand that agricultural labour organised in so improved conditions is apt to defy with advantage any competition on the international markets regarding the home production of the countries remained behind in that admirable evolution; and it is also easily understood that individual initiative alone, however it may multiply its vigour to introduce by and by the modern methods and to avail itself of the benefits of scientific investigation, will be of insignificant and lamentably slow results as long as the impulse of reform will not acquire the amplitude and intensity necessary to comprise in a uniform, general and systematic movement the complex of the directing and the labouring persons of agriculture in the whole nation.

Scientific technics, in order to produce practical applications which may be sensibly appreciated in their synthetic results, needs intermediate organisations of penetration and diffusion into the popular mass. Public instruction, by means of the State, is, therefore, the first and most urgent of the needs of our agriculture. The rural school, the agricultural college, the experimental station are the three gradually ascending forms of the system adopted by the most prominent nations of the world to spread agricultural instruction throughout the territory. The results have been as surprising as quick. In the space of one generation, hardly, agriculture has become transformed into the most important, the richest, the most prosperous, the most beneficent of all the industries of civilised mankind. The rural school and the agricultural college teach and breed the future tiller in his childhood and youth. The experimental

station aims at the improvement of the adult, the advancement of scientific investigation, the objective verifying of the new discoveries. But the distinctive condition of the three links of the system, its common and preponderant characteristic, is that of supplying, before all and above all, a practical, eminently practical, essentially practical instruction, in order that the application of the acquired knowledge whatever its degree might be was of a palpable and immediate usefulness.

In each of the 81,670 rural schools existing, in 1899, in the principal nations of Europe, there is a ground annexed, divided into parcels or beds for each pupil to cultivate under the guidance of his professor who at the same time he is explaining the theory, personally executes the work in his own model fraction and teaches the management of the implement adequate to the labour. The school provides for all the expenses of seeds, plants, manures, etc., but the product in sale of the crop of each parcel is handed over to the child, as a reward for his work, besides the prizes granted to the best cultivated piece. The time commonly dedicated to that apprenticeship, is two hours a day and it is distributed in such a manner that during the three years of primary education, the main cultures of the region have been passed in review. The total result of that method of teaching, besides supplying agricultural labour with hundreds of thousands of clever operatives every year, develops in the children feelings of satisfaction at their own valuelessness, understanding they have acquired aptitudes to usefully collaborate in the productive industries of their country and links of companionship in remunerative works which later on display themselves in that spirit of association that is the most solid foundation of national unity. Workers in such condition from the first years of their lives will soon be the most efficient agents of the simultaneous evolution of the social energies anywhere on the planet.

The agricultural college has for its chief aim the technical education of the future managing staff; but as the scientific conquests

are extending day by day at a swifter rate than the cerebral capacity of man to comprehend them usefully, the tendency of that teaching is progressive specialisation, so that in a short number of years remunerative professions may be formed, restrained to a certain group of immediately available knowledge. Agricultural exploitation on a large scale becomes thus gradually inclined to be directed by specialists associated in superior organisations, withdrawing more and more from the old systems of unitary and absolute direction, with unquestionable advantages in the effective results.

The experimental stations are, at the same time as centres of investigation in the highest scientific sphere, positive exhibitions of the most recent advancements and improvements, realised in all the various branches of field labour; and although they cannot be considered properly teaching establishments, they are so of consultation for the labourer and of an active propagand of the best methods, in the most useful and most eloquent form, that of objective teaching by experimental verification.



Chimalpa farm.—Maguey in full development  
and extraction of the honey-water

Among the phenomena which together contribute to form the law of causality of the aleatory state of agriculture in this country, general opinion grants a prominent place to the conditions of irregularity, lateness and insufficiency of pluvial precipitation which since some years ago has been observed on the Great Tableland; whence they deduce the urgent necessity of undertaking some works to gather the torrential waters descending from the mountains in the rainy season in order to extend the irrigation cultures and to assure the crops.

Although meteorological statistics be not yet able to supply exact statements and sufficiently applicable ones to the whole territory about a gradual and positive diminution of the volume of rainfall in a period of at least fifty years, the fact seems well settled by testimonial observation that between the beginning and the end of the second half of the century there is a considerable delay of the epoch of the year when the ordinary season begins; and also that the area of the dry or less favoured region has been extending from the Northeast towards the central part of the country obliging to abandon the cultivation of extense zones which formerly contributed an important contingent to the total production. It is also assured, besides, that delay and this extension have become accentuated in the last years to the length that the formal rains which now begin in the valley of Mexico almost at the end of the month of June, made their appearance at the end of May in the decennial period of 1850 to 1860 and since then, with various exceptions, were keeping behind until to begin at the end of the first fortnight of June towards the year 1875 showing a delay of ten days in that period of twenty five years and of twelve or fifteen more from 1875 to the present moment. Although the complexity of the meteorological phenomena does not allow to affirm the rigorous exactness of the stated limits of that delay, the fact by itself cannot be denied and therefore the irrigation questions must figure among the most visible needs of national agriculture, to the effect that the solutions eventually proposed must procure efficaciously to stop the double advance, in time and space, of the period of drought.

It is evident, indeed, the irrigation problems fundamentally depend on the possibility of suspending or correcting the delay of the normal rainy season; for if that phenomenon confirmed the apparent law of its development in successive time, before the end of next quarter of a century, the formal rains would begin in the valley of Mexico towards the middle of the month of July rendering the cultivation of maize and bean practically impossible in the largest part of the Republic; firstly because with that date the period of atmospheric calms known under the name of *canicular*, coincides, during which, as a rule, rain fall diminishes or ceases of all, and this would not permit to end or to utilise the crops of those essential alimentary articles; and secondly, because, even if these were made into the necessary fulness and the aerial irrigation continued without interruption, the plantations would not have time enough to ripen the fruits so that they might face without imminent risk the frosts of the first days of the month of October, for, the abatements of temperature, in our latitudes, depending on the astronomical position of the Earth in its annual revolution, or in other terms, on the beginning of the arctic polar winter which gives rise to the cold waves of the equinoctial epoch, the dates of the appearance of frost on the Central Tableland are constant and immutable and consequently, impossible to avoid. Therefore, whatever may be the number of collection works raised to store up rains and torrents in order to advance in the following year the sowing of maize and beans with artificial watering, the positive result would be practically illusory, if we take into account the intensity of daily evaporation in our climates (not reckoning other causes of waste), because the minimum being from six to seven millimetres in the wintermonths and exceeding one centimeter in the following months, any deposit however considerable we may suppose it, either does not resist eight months of continuous evaporation, becoming wholly exhausted before its reserves are made use of, or these are so much reduced that their benefit would scarcely be perceptible in the general mass of the harvest.

The irrigation problem is not, therefore, a mere matter of dams and ditches, at least in what regards the security and increase of the food provisions most indispensable for the population of the country, but it is a complex problem which, on one hand, comprises the possibility for man to modify the climatological

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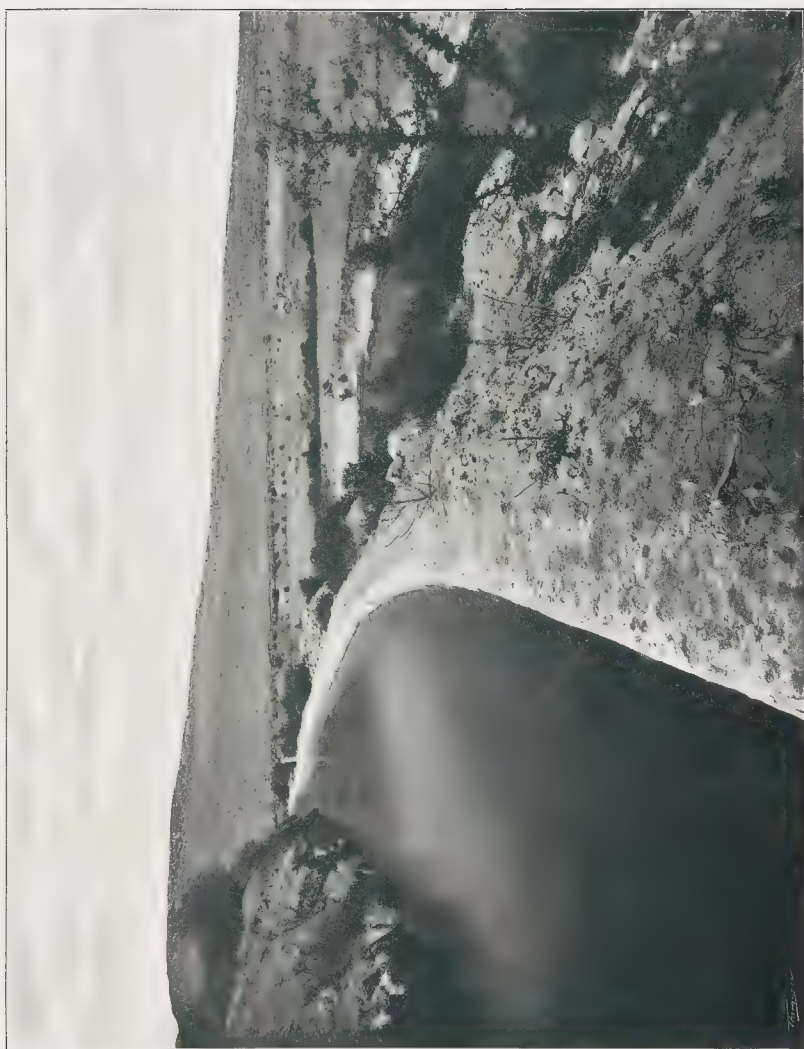
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**Puebla. — First tract of the great "Porphyrius Díaz" canal**



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conditions of vast zones of territory and on the other hand affects questions even of political regime in the adoption of systems which by their very scientific and national importance, claim a uniform direction to regularise the use and utilisation of the collection and distribution of the waters, in the ways most approaching common interest. The social organism's evolutionary process has, thus, arrived at a stage at which the particular energies of the individuals integrating the same claim the intervention of the directing centre in order that the resultant of the forces in action to satisfy urgent necessities of conservation and prosperity of the joint life, may be steered by the action of public force towards the line of contact with national benefit.

Not pretending to penetrate anyhow into the field of scientific investigation which implies so important questions, it appears opportune to call attention to some facts of easy observation and simple verification apt to throw light on man's capacity to modify on a large scale, to his weal or his harm, the climatology of a region. Leaving at one side the methods set in practice by our coffee growers in order to regulate the ambient medium of their plantations keeping it at one part moister and hotter around the plant in order to prolong the ripening of the bean whereby it acquires a bigger volume and greater richness of aromatic components, and regulating, on the other hand, the direct action of the sun and the effects of nightly radiation; not remembering the extensive tobacco fields covered with awnings of canvass, twigs or slate now used by the Americans to obtain finer and larger leaves on grounds formerly improper for this cultivation, and not bringing to reminiscence the considerable improvements of the marshy state of sea shore zones or of sandy steppes of interior lands by adequate plantations, since with all this we shall not succeed to give a proportionate idea of the magnitude of the problem, but it will be enough to fix our attention on certain well established relations between vegetation and rainfall to define, in general terms, their reciprocal dependence and the most prominent characters that specialise them in our latitudes.

During the long drizzly rains it is easy to perceive that every vegetable, large or small, on mountains and hills, endeavours with its leaves, twigs, branches and stems, in proportion to its size, to direct towards the soil and retain therein the drops of water that fall from the clouds, making them penetrate into the interior to form occult deposits whence the sources and superficial currents in the flats and the subjacent liquid layers come that maintain the moisture of the ground at variable depths, but frequently at the reach of the law of capillarity. During strong precipitations, the fallen leaves and all kinds of waste matter help the stems, stalks and roots to diminish the dragging force of the waters which, otherwise, would waste away the talus of the ground; and during the epoch of drought they form beds or screens which, together with the shade of the trees, conserve the moisture of the soil sheltering it against the drying action of the sun and the winds, and keeping a fresh atmosphere at a relatively high hygrometric degree. This complex of mechanical work accumulated during centuries has made of the vegetation-clad mountains and hills incalculable deposits, like enormous sponges impregnate with water which store up in a large part the pluvial precipitation of each year and slowly shed it over the flat lands whose vital activity they assure and preserve; forming, besides, the cataract of gratuitous energy, the perennial and majestic river, the indispensable source for the existence of the town.

During four hundred years, thousands of men have been busy to destroy the splendid woods of all the hills and mountains of the Central Tableland and of a large part of both their slopes, never repairing them. The rains now fall on inclined and naked plains, without detention and unable to penetrate into the interior cavities, sliding in rapid avalanches, in torrential streams, dragging with them earth, sand and rocks which they soon discharge into the formidable momentaneous swells of the rivers falling into the seas. The provision of the deposits in the mountains has been thus diminishing from year to year, their reserves have been impoverished and although during long periods of time the necessary result of that immoderate felling has not become sensible, when the increase of the surface destined to cultivation, industrial development and above all the construction and working of the large net of railroads carried it to such an extreme that arborescent vegetation became extinguished on nearly all the branches of the



cordillera that form the vales of the Central Tableland, its effects have suddenly become manifest by reactions of the climatology of the country as intense as the human facts that prepared them were persistent, general and accelerated. The sources have become exhausted or have lost an appreciable portion of their former volume; the liquid layers of the subsoil, withdrawing from the proximity of the surface or disappearing at all; the scanty permanent currents becoming shallower, and the lands, torrifed, cracked, pulverised by a tropical sun, from day to day more dry, more naked, more desolate and dismal; wrapped up like in a shroud by a diaphanous atmosphere whose hygrometrical degree during the summer months scarcely reaches that of the large African deserts.

The masses of cold air which at the beginning of our autumn commence to ascend from the glacial zone towards the tropics and the equator, meeting those which descend in a contrary direction charged with moisture by the evaporation of the sea and land surfaces, produce along our coasts thick fogs which soon attain the saturation degree and dissolve in frequent and abundant rains. The high pression and the



Chimalpa farm.—Wharf for loading pulques

great velocity of the waves of low temperature do not permit the fogs or clouds to acquire great vertical depths; therefore, they generally do not surpass the altitude of the Central Tableland and the aqueous precipitation is limited to the talus of both slopes of the cordillera maintaining thereon an exuberant vegetation. At the rate the season is advancing towards winter and during the same, the immense layers of snow on the plains of the United States increasing the effect of the polar wave to the length of giving the North winds a greater power of saturation and their gusts the character of hurricanes accentuate the rainy precipita-

tions and make them more frequent, but their effects never reach the high plateaus in another form than that of rapid and irregular abatements of temperature called *heladas* (frosts) in the country.

Later on, when the thaws have ended on the neighbouring territory and the sun heat raises larger masses of vapour from the land and the seas causing at the same time barometrical depressions which are so many cyclonic centres of atmospheric movements in a sensibly conical form (with their apexes towards the soil, but with immense peripheries in the lofty aerial regions); the condensation of the mists into agglomerations (*cumuli*) which attain even six or seven thousand meters of vertical height, permit them to make their appearance over the Central Tableland announcing the proximity of the rainy season. The clouds appear, indeed, some times, in March, forming lofty awnings resembling thick mists, dense enough to intercept the rays of solar light; more frequently they come up in April and May, with a great tension of electrical potential and a luxury of discharges, that seem to augur tremendous precipitations; but, save some insignificant, partial and very short drizzles, they disappear after a while, quite undoing themselves, leaving for that once and another once the sky limpid and the season procrastinated.

On what does this phenomenon depend? On complex causes, there is no doubt, complex to such a degree that not even the immense emissions of solar matter, revealed by the protuberances of the corona and whose state of excessive division is so thin that it may be carried along by the luminous rays, dropping in part on the terrestrial atmosphere where it generates and develops the electrical potential, and of its atoms makes centres of condensation for aqueous vesicles together with the dust raised by the winds, have their participation, and quite an interesting one, in the unequalness of the meteorological manifestations (probably following the laws of the cycles of those eruptions); but the main agent and

the most direct one, seems to reside in the action of the aerial, vertical and ascending, currents produced in the gaseous mass by the contact with extense superficies of the terrestrial bark heated by the sun and progressively dried up through the absence of vegetation. The effect of those currents of hot and dry air is visible; saturation is not produced, the drop is not formed, rain does not fall; the cloud becomes dissolved in the atmospheric mass, or is maintained in the lofty regions in form of opaque mists as long as the upper currents of low temperature do not dissolve them into *stratus* or crystallise them into *cirrus* or white and floating flakes of light snow. At night, the intense radiation of the soil produces the same dissolving results, until, at length, the continuous hygrometric impregnation of the air at the expense of considerable masses of vapours successively rendered useless to be precipitated as rain, diminishes the resistance to the saturation of the low mass of clouds which the cold horizontal currents of the cyclonic movements tend to produce along the outer contact superficies, being the commencement of the normal rainy season on both borders of the Great Tableland, advancing in opposite directions towards the centre, at the rate the hygrometric value of the air is increasing over the line of advance of the storm.

The progressive retardation of the normal rainy season is to be explained, therefore, at least, from the point of view of the most immediate and apparent cause of its manifestation, i. e. as a necessary and direct consequence of *human acts* which have produced, on a large scale, deep modifications in the climatology of the whole region.

\* \* \*

It seems, therefore, a logical deduction from these indications that the replantation of the woods on the mountains and hills of the country, is an imperious necessity, a national necessity, parallel at least to the necessity of increasing artificial irrigation whose importance is not doubted by anybody; but it is also undeniable that both necessities together with the technico-practical agricultural instruction, profusely and cleverly distributed, exceed the limits of the individual sphere. They are lofty conceptions of complexity affecting the conscious part of the great collective organism; they are generalisations whose realisation, whose appliance, whose development correspond to the national brain and whose introduction and future systematic and harmonic evolution belong to the province of the political power and of the national treasury, likewise.

The Reform gave agriculture a gigantic impulse with the partitioning and liberating of territorial property, with the considerable increase of cultivated superficies and with the great vigour of social reconstruction which prepared in its turn the ascensional movement of all the branches of wealth and the splendid flourish of the country's progress.

To the present generation there now corresponds the reconquest of our arid region, the restoration of the pluvial regime, the utilisation of the torrential precipitations and of the continuous currents, the education of the country-people in the improved methods, the diffusion and penetration into the labouring masses of scientific knowledge and of its industrial applications.

To bridle the torrent, to harness the cataract, to tame the wild force of the running water and of the precipitant river in order to tie them to the working car; to move the manufactory's dynamo, the tilling plough and then to spread in a quiet sheet their fecund liquid over the land heated by the sun, to centuplicate the production of the soil, raising here the workman's salary, there the remuneration of the capital, to stimulate the immigration of dense masses that build towns and people deserts and to convert Mexico into an intensely agricultural and eminently exporting country in a short time, is a work worthy of the intelligent brain of a great people.

It is also the nascent stage of the evolution of national agriculture at the beginning of the xx century.

G. Raigosa.



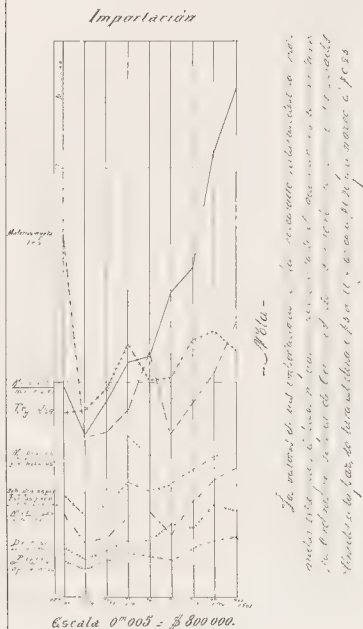
# APENDICE A LA EVOLUCIÓN AGRÍCOLA



## 2 VIAS DE COMUNICACIÓN

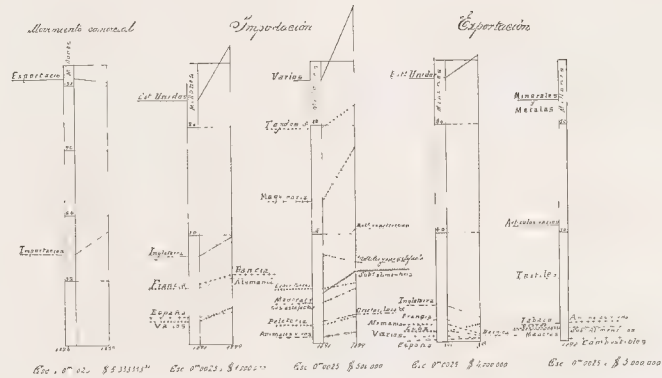


## 3 COMERCIO NACIONAL

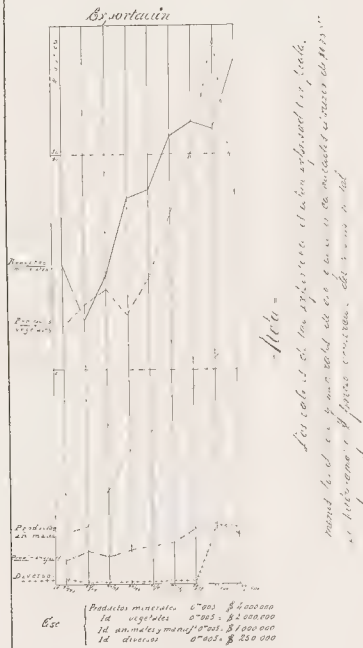




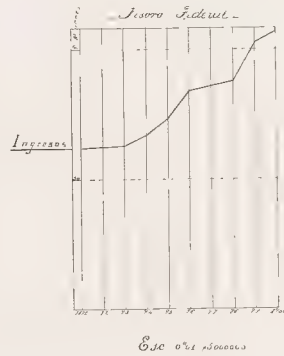
## COMERCIO



## COMERCIO NACIONAL

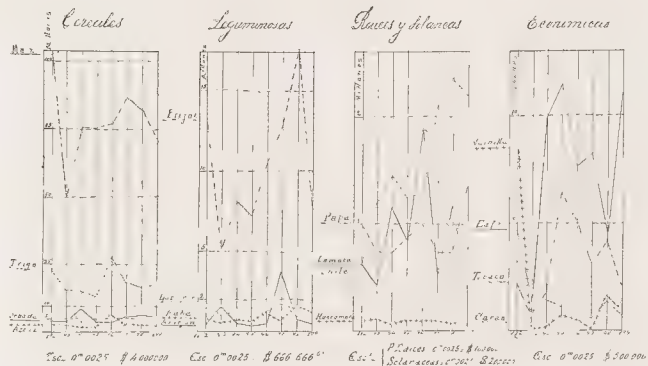


## RIQUEZA PÚBLICA

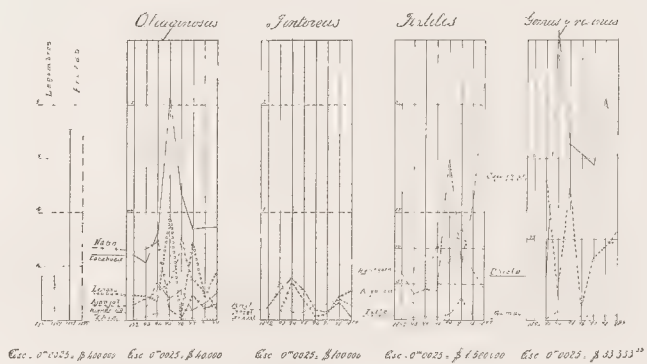


- I. En los años anteriores no se conocía la riqueza pública.
- II. En el presente se ha empezado a conocer la riqueza pública, especialmente en el sector de la agricultura y la ganadería.
- III. En el presente se ha empezado a conocer la riqueza pública, especialmente en el sector de la agricultura y la ganadería.

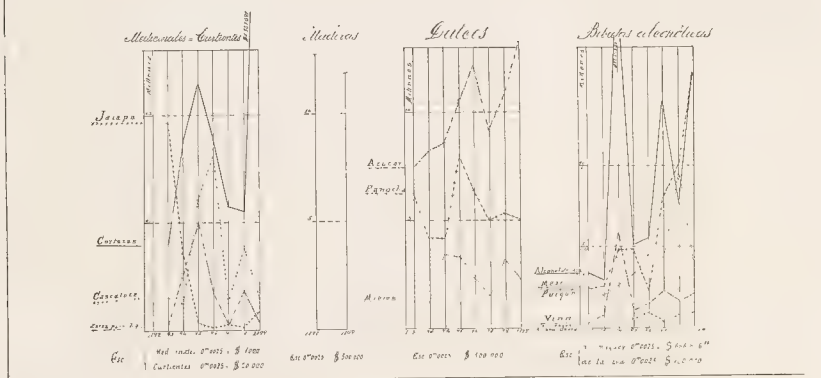
# PRODUCCIÓN AGRÍCOLA



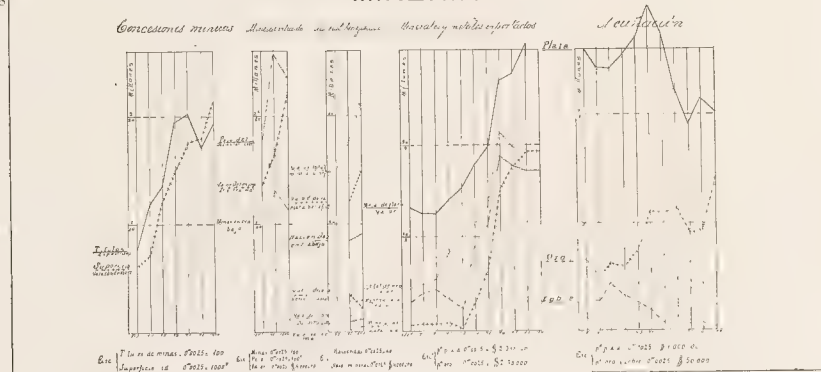
# PRODUCCIÓN AGRÍCOLA



## PRODUCCIÓN AGRÍCOLA y de INDUSTRIAS DERIVADAS



## MINERÍA



## RIQUEZA PÚBLICA



VOL. II.—PART SECOND

MINING

Joachim Velázquez Cárdenas y León. Count Regla

Faustus Elhuyar

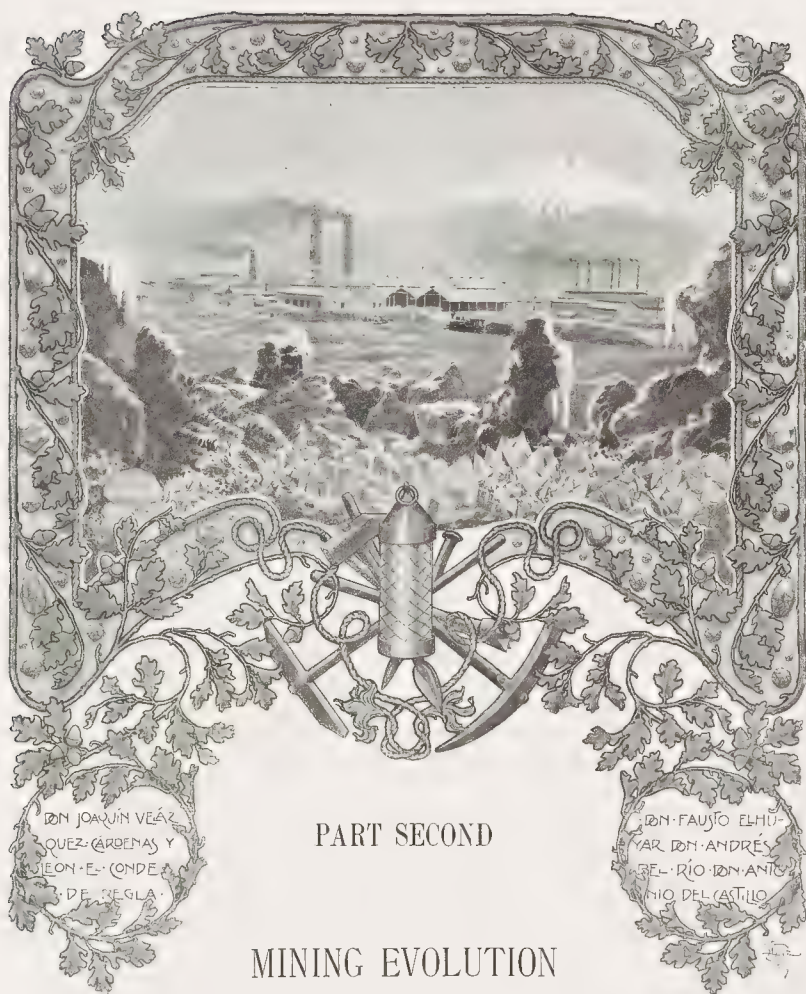
Andrews del Río. Antony del Castillo



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**I**N every human enterprise art and science ought to direct; the capital to foment; labour to produce; probity and economy to manage; the safety of persons and estates to attract; the communication ways to grant a swift and cheap transport; the complete peace of the region to help and law, liberal and adequate, to aid without setting obstacles.



If these conditions do not combine, failure is certain. If we reckon with them, the compensation of chance errors being undoubtful at the end, the probabilities of success are great.

Happily, in our country, since more than a quarter of century ago, that brilliant conjunction of propitious circumstances does exist, permitting and forwarding more and more the remarkable development of Mexican mining which, at the beginning of the xx century, displays in many cases, to our fortune, the true character of the great human industry.

From the legendary cleverness of the gold searcher we have passed to the profound and luminous science of Haton de la Goupillière. He and the other great engineers, the masters, meeting at Paris just a few months ago, in the International Mining Congress, found happy resolutions for the most arduous problems.

From alchemy we have come to transcendental synthetic chemistry, from the rudiments of physics we have progressed to the marvels of electricity and liquid air; from the generally heavy, rough, primitive apparatus to the steam engine.

On the other hand from animal traction we have arrived at the locomotive and the most useful trolley.

From the rough knowledge hardly permitting to distinguish marble from granite we have advanced to the microscopic study of the rocks.

At last, from the crassest ignorance in geological matters we have got on to predictions exactly accomplished in the perforation of Mont-Cenis.

A most lively interest is roused by the maps and geological cuts presented in the matchless French Exhibition of 1900 and we justly admire the masterly studies of Professor Suess regarding the future of gold and silver.

From barter, in economical management, we have risen to Leroy-Beaulieu's luminous writings and to the as simple as grand organisation of modern credit. And what for us almost seemed impossible and now very justly flatters us, from the disorder, the wastefulness, the misery of our Mexican public finance of former days, we have succeeded in obtaining consideration at home and abroad and respect for our credit on the international market.

Distrustful and scanty capital could obtain in the European banks an interest of 10 or 12 per 100, about the year 1830. In consequence, only when it was sure to get for itself the greater part of the benefit it resolved to fecund in industrial practice the useful and transcendental ideas. Now it is more abundant every day and not being content with the 2 or 2 1/2 per 100 the banks offer in Europe, it becomes more travelling, more undertaking, more audacious at every moment and endeavours to find everywhere the just gain which the ever open hands of the men of science and invention offer in serious enterprises. These, formerly easy to be counted, unceasingly multiply in the civilised nations and making more and more important discoveries they themselves wonder at with surprise, they are already constituting, for our greater weal, the indefatigable and almighty legion of human Progress.

Manual labour has been substituted in a large scale and from day to day it is so more completely, by apparatuses, tools and machines; and these instruments making production more economical for which purpose they are moved by wind, water, steam, compressed air and different gases, liquid air or electricity, exalt at the same time human exertion because they are guided in their labour by the workman's intelligence and skill.

From the restrictive, far too tutelary and troublesome laws we have come to the newest Mexican mining legislation that is distinguished by its characters of liberality and adaptation to the general circumstances of the country and to the special one of that great industry. Indeed, regarding the working of the mines, which is the main point in view, it grants, as it ought to do, the greatest facility to acquire, the necessary security to keep and the most complete liberty to work.

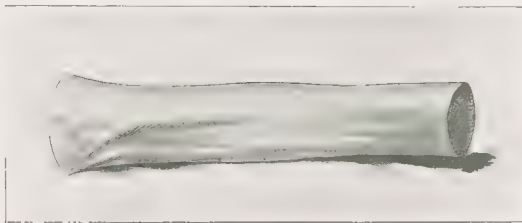
Transport on mules and by stage-coaches has been succeeded by that on the long railway lines connecting the chief centres of the country and, although in the matter of tariff something remains to be wished for, improvement is undeniable.

All vital organs of the Nation are linked by telegraph wires not only between themselves but also with the foreign markets and the international changes of the prices are known with convenient opportunity.

Lastly, the continuous anxiety, exactions and ruins of the calamitous war epochs for ever gone by, for our own and the whole world's weal, has been followed by the present period, already long enough to inspire trust, or security, peace and prosperity.

It is pleasing to be able to say, on the solid foundation of the facts, that at the end of the XIX century we see on our Mexican soil a people living at work in its peaceful advancement, in peace and harmony with itself and with the whole world.

In other nations, at the dawn of the XX century, the undeniable advances of the sciences are darkened by threatening and thick clouds; but on these very clouds the luminous rain-bow bridge will lean over which the beautiful, consoling and eternal principles of labour, justice and love are to pass triumphant and still greater, whether those peoples will or not, because commerce, even without becoming aware thereof, even employing the absurd and dilatory system of force, constantly produces the approximation of the nations, with or against their wish, for art and science, with full consciousness and desiring the result, incessantly tend towards the unification of mankind, under the salvation bringing ægis of the great truths and if they differentiate and specialise the aptitudes of individuals and nations, it is to make work more intensive and more fecund from day to day. Thus every time a greater number of conquered truth is obtained and the soar is more towering towards the serene and luminous region where unity is prevailing.



Copper chisel

Happily, in Mexico, with its present elements, we are fully prepared to receive the improvements which doubtlessly increasing scientific progress will cause to fall down like a beneficent rain, in the years to come.

The present century, the twentieth, will be that of the definitive triumph of intelligence and therewith of right principles, honest work, equitable justice and increasing specialisation of individuals and States.

In consequence, every unity finding less difficulties to consecrate itself to the work determined by its own aptitudes, there will be no frictions and unless there arise any accident delaying its longed for appearance, this century will be that of accession of the desired harmony among men.

During it we Mexicans, if we continue labouring in peace, shall arrive at the summit of our enhancement in many essential respects, among them that of our mining which then will reach in full the grand characters of human industry arrived at its highest degree.

But will that come to pass? It is not only possible, but pretty likely, for although it is true there still exist, and among enlightened people, lamentable errors regarding the character of the miners' industry, those mistaken conceptions are disappearing and the every day more brilliant light of modern experimental science begins to shine. It is to be expected, therefore, that, everybody being occupied at his work and criticism exercised only between co-professors, sole manner to produce due useful results, man will approach nearer and nearer complete success and therefore actual triumph.

Mining industry, in Mexico and everywhere, will call the specialists and guided by them will come nearer and nearer to the desired maximum of produce with the minimum of exertion. This will be the end of the erroneous judgment of non-professional persons who consider Mining an eminently aleatory industry and the most expensive and jeopardous of all hazard games.

Well know the initiated that regarding mathematics and topography, physics, mechanics, chemistry and geology it may be assured there is no dark haphazard in their present state; in these sciences, and the more so the more they get improved, we meet everywhere but laws and always laws.

And it is on these precisely as on solid cement, that miners found their beautiful and transcendental industry.

The errors in the work of man are manifold; there are permanent causes of error, and small, fortuitous errors, not subjected to our will, but which in time get compensated. Under the fateful influence of the causes of constant errors in all human work very different results from the pursued ones are obtained; we run after success and stumble on failure. In such conditions perseverance in the work leads to complete ruin, and therefore the causes of the permanent errors must be attentively studied regarding every proposed problem and every necessary effort must be made to eliminate them wholly. What are the permanent causes of error in the industry of subterranean work? The conditions opposite to the favorable circumstances mentioned in the first paragraph of this study.

All those circumstances are wanting? Failure is certain. Several are lacking? Ruin is likely. Any of the chief ones is not present? Disillusion is possible.

Now, in Mexico, in the mining business, do people duly, previously and conscientiously study the favorable conditions and the difficulties that may disturb them? Yes, fortunately, the sensible minority of actual and expert business men whose number is increasing by little and little, they being those who found and successfully develop our mining enterprises.

However, in other cases, unhappily, neither the certain, nor the likely nor even the possible conditions are taken into account and supposing that in some of those cases the other circumstances concur, the necessary capital does not foment, nor honest economy manage nor scientific intelligence direct the business. The fault of the failures that logically occur, lies not, according to the undertakers, in their want of study nor in their imprevision nor in their want of economy; the only thing at fault, they assure, is the aleatory character of mining, the chance which to their opinion presides over the labours of subterranean working of the mineral beds. Luckily that legendary type of inexpert, improvident and prodigal miner is disappearing with accelerated swiftness and everywhere there arise serious enterprises which attentively studying every case require the complex of favourable and necessary circumstances because they know better the true industrial character of mining.

They know it is in the ravines or in the slopes of the hills of Pachuca, Guanajuato, Durango, Sinaloa, Chihuahua or Sonora; it is where the geologist has made a previous conscientious exploration of the lodes and orebearing beds where they shod; where the mining engineer intelligently directs the works according to a meditated plan; the mechanician arms them and where, at the foot of the apparatuses and engines, the untirable expert workers are to be seen, day and night, in adequate rotation; where the chemical engineer, in a well provided laboratory, analyses the minerals and studies the convenient turns for the incessant campaign of the foundry furnaces; there where the manager wakes to find the last dollar that did not appear on the account books, but existed in the coffer of the firm; where a sufficient capital managed with cleverness and prudence is always ready at the opportune instant to fecund the vital spots of so beautiful and complicated an organism; there, lastly, where people study, foresee and organise; never where the shares of the mining business are sold and bought with the same irreflexive enthusiasm with which some persons even make sacrifices in order to acquire lottery tickets; never, either, where amidst the darkness of ignorance, people are always waiting to listen to the songs of bonanza or to note at last some of the manifestations of that most black deity they denominate chance.

With this profound conviction the number of the Mexican miners who allow themselves to be seduced by golden illusions will decrease from day to day and they will always bear in mind that those illusions are not so beautiful as the realities are not sad or arid and that truth, the imperishable union of appearance and actuality, is the beautiful one, the fecund one, the consoling one. That truth will be the unshakable cement of the future greatness of Mexican mining that from the far remote times of the

primitive peoples up to the present moment has gone on consolidating and enlarging until being converted into the pharus that now guides the disengaged and firm steps of our Republic's main industry.

In order to see it in action, to study it and to become convinced that it ought to be the unique guide, we must begin to look at it in the Aztec epoch, follow it during the colonial times, overtake it in the independent period and contemplate it in the last thirty years of peace, security and progress.

It is to be admired, at length, illuminating increasing spaces with its light becoming clearer every day, at the dawn of the xx century.

And for this purpose it is convenient to divide this study into the four stated sections: Precortesian epoch, colonial epoch, independent epoch and present epoch.

## I

### PRECORTESIAN PERIOD

That mysterious and legendary epoch of our country is only known in its general outlines; but the study of what has been realised in those remote times is indispensable for us in order to measure with some precision the present advancement of our national mining.

And it is so in this as in all other departments because only so it is possible to study the progressive transformation which in the manifold spheres of human activity are caused by climate, race, heredity, education, talent, instruction and the relations of every group with all the remaining ones of human society.

Only in that way we can root still deeper in our minds the consolatory conviction that if it is true we are subjected to natural laws, it is not less certain that at the rate human intelligence is increasing it grows less difficult to modify the prescriptions of those laws in their intensity and in a convenient way.

And then leaning on the same, on the exact spot and in the chosen direction, mind may more freely continue its flight towards the lofty region where the law is to be found that regulates all the other laws, the law of laws, that of incessant progress.

Fortunately, the study of that epoch has been made already by a legion of learned men that have vowed themselves to so interesting investigations and have us acquainted with their results; archaeologists and historians have struggled and are still striving to illuminate that darkness, sometimes and in part succeeding in their endeavour.

The first news of the existence of gold in the land of the Aztecs was received by the Spaniards when they landed on the spot where they afterwards founded old Veracruz.

Ferdinand Cortés, the conqueror, when setting foot on Mexican ground received the magnificent and exquisite jewels of the finest gold which the unlucky emperor Motecuhzoma suggested by tradition sent him from Tenochtitlan with his welcome. The fact is thus described with charming simplicity by the soldier narrator Bernal Díaz:

«The first thing given by the cazique envoy was a wheel like the Sun, as large as of a barrow, with much work of art, all of very fine gold, a great work to be looked at, worth, according to what afterwards stated the men who had weighed it, above twenty thousand pesos gold.

»Another wheel, of silver, figuring the Moon with many resplendencies and other figures therein, and this was of a heavy weight and much worth and he brought his casque full of crisp gold grains as it is drawn out of the mines, worth three thousand pesos.

»That gold of the casque was more esteemed by us than if they had brought thirty thousand pesos, for by it we knew there were good mines there.

»Besides he brought twenty gold ducks, of very nice working and very natural, and some animals like dogs of those they have among them and many figured pieces of gold, shaped like tigers and lions



and monkeys, and ten collars made of a very nice making, and other hanging jewels, and twelve arrows and a bow with its string, and two wands as of authority; five palms of length.

»And all this, of very fine gold, and of cast work; and then he ordered tufts of gold and rich green plumes to be brought and others of silver and fans of the same metal: then gold stags cast in moulds, and there were so many things that I cannot remember all, it having happened so many years ago.»

From this plain and natural description it results thus quite clearly that the Aztecs were not only acquainted with the precious metals and extracted them from the mines, but knew how to work them as goldsmiths.

Turning to account the greater density of gold, they separated this metal from the loose alluvion earths by means of washing. But they not only got the native gold of the superficial finds or placers, they also knew how to extract from the lodes auriferous and argentiferous ores, executing the convenient work; thereto by means of the fire, at open cuts and at little depth.

Other historians assure they were not satisfied with that, but possessing instruments to attack the rocks, they managed adits, sank communication shafts and contrived to execute the necessary arrange-

ments for the ventilation of the works. At any rate it appears proved they knew the mechanical preparation of the minerals and the art of founding.

Indeed, they paid their tribute either with grains of native gold in leather bags or in small rush baskets, or in more or less thick dust put into quills which by their transparency allowed to see their metallic contents or also with the yellow metal cast into ingots.

Fac-simile of Bernal Diaz del Castillo's signature

On the other hand, it is known that noble and generous Motecuhzoma made Bernal Diaz the present of three little ingots of gold; that passing the time with Cortés at the game called *totolague* consisting in throwing gold globules on ingots of the same metal he endeavoured to lose in order to get an occasion to give and so in one evening he gave about fifty ingotlets of gold.

Lastly that having once overheard the injurious expressions proffered against him by a Spanish mariner, he sent for him, blamed him mildly and gave him a gold jewel.

All these assertions of Diaz del Castillo's are also stated in the interesting work: *La riqueza minera de México* (Mexico's mineral riches) by the distinguished mining engineer Santiago Ramirez.

Regarding the artistic aspect of the Aztec goldsmith's craft one may successfully consult Antony Penafiel's great work: *Monumentos del Arte mexicano antiguo* (Monuments of ancient Mexican art).

For this sketch it is enough to record that in the chief towns of Anahuac vases and jewels of gold, the Aztecs' favourite metal, and sometimes also of silver were manufactured.

Ever since their arrival, as Bernal Diaz narrates, and later on when they entered the Aztecs' capital, the Spaniards were not weary to admire the jewellers' skill; and among these the greatest reputation and even celebrity for the artistic beauty of their creations was attained by the goldsmiths of Atzacotalco and Cholula. As in the arrival of the pale and bearded faces the Emperor believed to see the fulfilment of Quetzalcoatl's prophecies he obliged his nobility to do homage to the king of Spain. The quantity of precious metals which the conqueror then received, especially in the form of ornament objects «was valued at the sum of one hundred and sixty two thousand pesos in gold.»

«All the jewels, Cortés says in his first letter to Charles V, of gold and silver, and plumes, and stones and many other things of value which I assigned for Y. M. and put apart, might be worth one hundred thousand ducates, and more; which, besides their value, were such and so marvellous that considering their novelty and strangeness they had no price, nor is it to be believed that any of all the princes of the world of whom there is any notice, can have them such and of such quality.

»And let it not seem fabulous to Y. H. what I say, for it is true that all the created things, so on

land as in the sea, whereof the said Moctezuma could get knowledge, he possessed counterfeited quite to the natural, as well of gold and silver as of precious stones and plumes, with so much perfection that they almost seemed the objects themselves: of them all he gave me a great part for Y. H., besides others I gave him figured and he got them made of gold, such as images, crucifixes, medals, jewels and collars and many other things used among ourselves and which I made them counterfeit.

»There likewise fell to Y. H.' lot the fifth of the silver there was there, one hundred and sundry marks which I got the natives to work into large and small plates, and bowls and cups and spoons; and they wrought it as perfectly as we were able to make them understand.»

Regarding the other metals, Cortés says, at the great market of Tenochtitlan, besides gold and silver they sold copper, lead and tin.

With reference to copper, Bernal Diaz relating the voyage captain John de Grijalva made along the coasts of Anahuac, says:

«And as soon as the people of Guazacualco and other neighbouring villages knew we bartered, they also came with their small pieces and took green beads which they held in high esteem. Besides this barter all the Indians of that province would bring some very shining axes as elegant things and like weapons, with much painted wood handles, and we believed they were of low gold and began bartering for them and in three days more than six hundred were obtained and we were very content with them believing them to be of low gold and the Indians were much more satisfied with the beads; and all proved vain, for the axes were of copper and the beads a little of nothing.»

About this relation a quite just remark is made by the enthusiastic miner Trinity García in his picturesque little book: *Los mineros mexicanos*, to wit that the axes will not have been of pure copper which is red, but rather of bronze whose colour could induce to mistake it for low gold.

Indeed, it seems to be exact that with bronze they made their scythes, pikes and all military and rural implements and with red unalloyed copper they manufactured pots, beakers and several other vessels.

They were very skilled in making the bronze pikes and when Cortés preparing his attack on Narvaez, ordered the Chichimecs to make two hundred and fifty of such pikes, they were wrought with great nicety and proved so good that Cortés, having poached one of Pamphilus de Narvaez's eyes with one of the pikes, obtained splendid and complete triumph.

On the other hand, the distinguished professor of the National Museum, Jesus Sanchez, in an interesting essay, refutes the assertion of a European scholar that the Mexican natives had not worked copper mines.

And nothing less but in a fragment of the roll of tributes written on Indian agave paper with the phonetic-descriptive characters proper of Aztec writing, it is stated that several tribes handed every eighty days some hundreds of copper axes and bells.

Lastly, the learned historian Orozco y Berra discovered and studied an old copper mine presenting all kinds of marks of having been worked with fire by the indigenes.

The same thing was noted by general John N. Mendez, a knowing miner, in a similar copper mine, in the district of Izúcar de Matamoros, State of Puebla, as he told Mr. Trinity García.

Gold was mainly produced, it seems, at several places forming now part of the State of Oaxaca. Silver was extracted from the Region of Taxco; however, the white metal, as is well known, was not highly valued. Copper abounded, especially at Zacatolán and in the region of the Coahuilcos.

Lead came from the regions now occupied by Zimapán and the Cardonal; and from various spots they got the tin which alloyed with copper, served them, as some persons assure, to coin money.

They did not discover or did not know how to work the deposits of iron ores, but they turned to account those of brimstone, ochre and a white earth (kaolin) they held in high esteem.

With the amber that abounded on the coasts of both seas, they contrived to produce, setting it in gold, objects of adornment as curious and original as varied and artistical.

Asphaltum found on the same coasts was used in the preparation of certain perfumes.

At several spots of the territory they found and contrived to use for ornamentation rock-crystal, amethyst, jasper and chalcedony, nephrite and cornelian, obsidian, agate and opal.

Finally, from some regions they received at the court, as tributes, emeralds, cat's-eyes, turquois, garnets (?), topazes (?) and «some green stones resembling emeralds and but little inferior to them,» beryls.

With precious stones the tribute was paid by the regions of the Mixtecs, the Zapotecs and the Coahuixcas.

Jaspers, agates and rock-crystal were supplied by several settlements near the coast of the Mexican gulf and among them chiefly by Cosamalcoapam.

In the already mentioned interesting work of professor Peñafiel we find valued at four hundred forty four thousand five hundred dollars the mean amount of the tributation in gold, in the form of dust, plates, ingots and objects of adornment, as also of copper wrought into axes.

The value of two thousand five hundred dollars is stated in the same regarding the tributes paid in turquois, rock-crystal, amber and beryl.

The roll of tributes which according to the antiquarians forms part of the Mendocine Codex, enumerates the provinces paying gold to the Mexican empire.

In lord Kingsborough's collection it is stated Tlapa gave «ten tablets of four fingers breadth and three quarters of a measure of length and twenty chocolate cups of gold dust.» Yoaltepec gave «forty ingots of the size of a wafer and the thickness of a finger.» Coaxitlahuacan «twenty cups of gold grains or dust.» Coyoacan «twenty ingots of the size of a mean plate and the thickness of the thumb.» Tlachquiahco «twenty vessels of gold dust.» Lastly, according to another curious statement that appears in the same English scholar's compilation, Tlachtepec gave for its tribute to the nation «a gold roundel with adornments of the same metal, a winglike gold piece to adorn the helmet, a gold diadem and a fillet broad as a hand, also of gold» as well as «two strings or collars of gold beads.»

All these statements have been taken from the important works alluded, as also from those of Sahagun, Cavo and Clavijero and from the interesting publications of Troncoso, Chavero and other distinguished contemporaneous archeologists.



Copper axe

It may be added that, according to Orozco y Berra, «the Mexica had certain efficacious rules to discover the lodes in rainy weather.»

Therewith we have reached the end of what till now is known about the works of the Aztecs in the difficult and interesting industries of the miners, metallurgists and jewellers.

It seems undeniable that the indigenous goldsmiths were skilful and therefore it is to be lamented that in 1527 the Emperor forbade the exercise of so beautiful an art in Mexico.

Father Cavo's continuer and commentator when mentioning the ill-advised disposition of that Royal Schedule justly exclaims: «This barbarous providence set an end to those wise goldsmiths who cast at one stroke a fish with one scale of gold and another of silver.»

It results therefore indisputable that for the state of culture of that epoch and considering the isolation from the rest of the world they had lived in, the Aztecs had contrived to realise remarkable advancements.

Among them as also among the Muiscas of New Granada, the Peruvians and the inhabitants of the

VOLUME SECOND

MINING

Select samples of the collection of minerals  
of the School of Engineers at Mexico

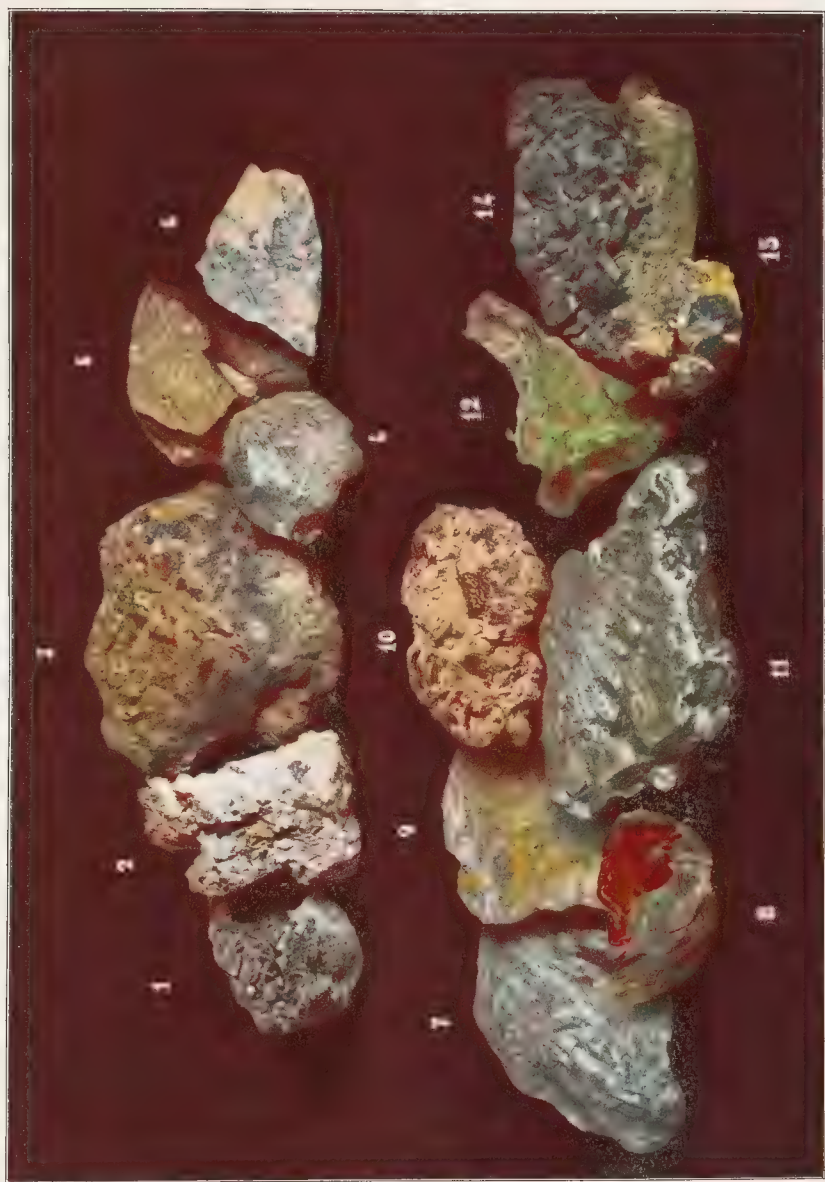
(PHOTOGRAPHIC REDUCTION FROM THE NATURAL OBJECTS)

Plate n.º 1

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|--|---|
| 1. Pyargyrite of Guanajuato.                 | 9. Native gold in quartz, of Tepic.                 |
| 2. Native silver in calcspar.                | 10. Blende, Galenite, Pyrite and Quartz.            |
| 3. Pyrite and quartz.                        | 11. Native amalgam of silver. — State of Michoacan. |
| 4. Galenite.                                 | 12. Native copper of Bahenchie, Chihuahua.          |
| 5. Copper pyrite, Zonahuecan.                | 13. Pyargyrite of Guanajuato.                       |
| 6. Pyargyrite on quartz, mine of Saint Paul. | 14. Copper pyrite.                                  |
| 7. Feather ore, Jamesonite.                  |   |
| 8. Quartz stained by cinnabar.               |   |









region now called Ecuador «casting of the precious metals, besides other branches wherein they also distinguished themselves, presented actual progress.»

Regarding this point, Orozco y Berra says that «in Quito they preserved during many centuries in royal coffers, precious works of American goldsmith's craft,» and that «a few years ago, by a system of economy that might be called barbarous, they melted those works which proved that many peoples of the New Continent had reached a height of civilisation far superior to that which is generally attributed them.»

But in the laws which rule the motions of human surge there stood written this civilisation was to shock against another more general one which would come from far Orient.

And, indeed, as far as the coasts of Anahuac the invading wave arrived which some time before had stopped at Cuba and on the crest of that wave there came a few ships and in those ships a few men and at the head of those men the Spanish chief, impressionable and energetic, who realised the conquest. Cuauhtemoc was the living incarnation of the great warrior qualities of the Aztec people.

With him, that powerful empire fell down for ever, with a tremendous clash, and for Mexico the second and interesting stage of her history began under the lead of famous Ferdinand Cortés who also was the representative of the most bellicose nation of that epoch.

## II

### COLONIAL EPOCH

From the Aztec empire we pass on to the Spanish colony which in mining matters transformed and increased the exploration hardly begun by the primitive peoples of Anahuac.

That vast and heedful investigation of the whole territory is carried through with unheard of tenacity by the clever and untireable goldsearchers of the colonial epoch. From the rudimental working of gold, silver and copper by fire, they arrived at the plentiful stream of white metal turned by the Spaniards into the world's monetary circulation. Everywhere in our Republic we discover the tracks of the mining labours of those times, labours which in the course of time were to rise to the famous works of Compostela, Zacatecas, Sombrerete, Guanajuato, Taxco and Pachuca.

What was it that pushed the Spaniards to explore nearly all our mountains in search of lodes and ores? Was it but the craving for gold hinted at by Father Las Casas in his harsh criticism of the conqueror?

There is no doubt various causes must have joined to produce the movement.

The eagerness for personal lucre that made them perpetrate so many and so deep and so irreparable wrongs, the collective wish to enrich their Spanish motherland where they periodically sent large quantities of the precious metals; the endeavour characteristic of every Spaniard at that epoch to outdo all the others in the realisation of the greatest prowesses.

When it was impossible for them to go to war, they rushed to struggle against nature and against the unknown in the rugged mountains of the new territories.

War itself pushed them to the exploration and working of the copper and tin ores with the aim to procure the metals then necessary for the manufacture of cannon.

On the other hand it was a remarkable phenomenon that constant and imperious craze felt by all to cooperate with their exertion at the enlargement of the conquest.

The warrior endeavoured to maintain that ideal by force and oppression with the arms; the holy missionary who luckily followed the soldier everywhere and sometimes even preceded him, employed for the same object the attraction of bounteousness and the light of intelligence; but both of them vyingly



explored everywhere, advancing without hesitation, with the sword or the crucifix in their hands, across the regions they did not know and that were hostile to them.

Much less was the difficulty to defend themselves, in an inimical country, for the nucleuses of settlements constituted by the miners aloft on the mountains.

And as a noteworthy fact we may state the relative facility with which on the concentric zones of those nucleuses and under their protection the pacific natives ventured to settle, quietly consecrating themselves to field works.

Thus the development of agricultural work was possible in a radius so much the greater the more important and active the working of the mines was, because it had as a powerful and efficient stimulus the surety of the increasing consumption of the mining camp.

Moreover, easy and cheap communication ways being entirely wanting, they must have often recko-



Zacatecas. — «La Cantera» mine

ned that on those shod beasts paths the dearness of transport could be resisted only by ingots of the precious metals.

Lastly, these representing a very considerable value in a very small volume, it was possible to concentrate in them very big capitals.

This fact must have them caused to think they constituted the only product able to pay the outlay necessary for their defence during the transport in that epoch of insecurity, assault and war.

Such will probably have been the principal motives of that indefatigable search and of that increasing exploitation.

A defective exploration because it lacked the prudent and wise counsels of present geological science; a deficient exploitation because to direct it they reckoned only with the rudiments of mechanics and physics. Chemistry came afterwards.

Nor were they able to base their administration on the great but modern advancements of statistics and economical science.

Nevertheless, on the virgin soils even the inexpert agriculturer obtains some premium by the extent of his cultivations. And in the mining industry, the placers or superficial deposits and the open cut working at small depth also yield some beneficial produce in payment of the unlearned miner's unwearied toil.

And never being tired they obtained large payments. In this like in any other matter the Spaniards could not bring more than what they themselves possessed. Their scientific wealth was constituted only by the general knowledge of those times when there hardly began to be perceptible some timid rays of the clearness which the experimental sciences are spreading now.

However, comparing their works with those of the previous epoch, they brought us many advancements. Instead of the Aztec fire they employed the European powder for the disaggregation of the rocks. For the stone and bronze stamps they substituted the iron tools and in the extraction of the minerals they replaced the backs of the workmen by the wind-lass.

And when in the excavations their great enemy, water, made its appearance, which at the same time is the most beneficent collaborator of the intelligent agriculturer, they did not feel obliged to abandon their exploitation of the mine. They imported small pumps and therewith they unwatered the works and when dry their intelligent working allowed them afterwards to reach far greater depths.

As for the surface labours they employed iron to crush the mineral stones and the horse-mills to pulverise them; with the Castile furnaces they enlarged melting and as far as the epoch consented it they remarkably improved the nascent Mexican metallurgy.

It appears demonstrated it were the exigencies of war that gave the first impulse to mining works in the Spanish epoch.

Ferdinand Cortés, in one of his letters to emperor Charles V making him acquainted with the fact, expressed himself thus: «There is nothing that rouses more the minds of men than necessity.» «I made great haste to look for copper and granted great rewards to make them find still more; and as they brought us some quantity I set to work a master who luckily happened to be here to make some artillery and he made two trains of half culverins.»

Of course he made them of bronze or alloy of copper and tin and of this last metal «he chanced to find among the natives of a province called Tachco, certain bits like very thin money and making inquiries I found that in the said province, and in others too, it was regarded as money.»

Thereafter the Spaniards, occupied at their organisation and satisfied with the jewels and ingots of gold they got from the natives any how, reposed on their laurels. They contented themselves with getting the auriferous placeres and various other deposits worked which had been known and exploited by the primitive peoplers.

The continuous excitations of the Government of Spain roused and finally put them in motion. Coaxing and threatening they tried to induce the Indians to disclose them the whereabouts of the mineral crests of gold and silver.

But the Indians refused and for many years resisted yielding only to charity. Some authors, and eminent ones, assure that at Taxco and Sultepec and Pachuca, spots near the town of Mexico, the cuts for the exploitation of the argentiferous lodes were opened by the Spaniards who first arrived at the territory.

But the miner Trinity García interned himself into the archives, worked therein during many months and when he once more made his appearance among the living, settled the dates, in my opinion, with plenty of solid reasons.

According to him, the silver ingots did not shine for the first time between the hands of the Spaniards but many years after the Conquest. In 1543, a charitable dame, lady Ellinor Arias, widow of Sir Peter Ruiz de Haro, fed a hungry Indian, in the environs of Compostela; the Indian, when leaving, said thankfully: «God will pay you, my lady; have faith in Him who will give you so much gold and silver that many thousands will superabound.» Three days later the Indian returned to see the lady and laying to her feet a quantity of rich ores, he said: «My lady, in reward for your bounty, this and its lode are for you and your daughters and their descendants.» The lady, thankful, went with the Indian to see the lode, gave it the name «Espíritu Santo» (Holy Spirit), chose the discoverer for her steward and became very wealthy with the gold and silver of her lode.

«The humble cottage,—the named Mr. García says,—of the poor and most noble family Ruiz de Haro became converted into the great palace of the powerful countess Miravalles.»

So many were the riches produced by the mining works of «Espíritu Santo» for New Galicia that it was erected into a bishopric and at Compostela the first royal treasury Peter Gomez de Contreras being cashier and Diego Diaz de Navarrete accountant.

Three years later on, the clever and bold captain Sir John Tolosa making expeditions through hills and ravines, came and pitched his camp at the foot of the hill Bufo de Zacatecas, on September 8<sup>th</sup> 1546. Some time before Peter Almindez Chirinos had set his foot on Zacatec soil; but the boldness and valour

of the natives as well as the steepness of the rocks, the ruggedness of the ridges and the scantiness of vegetation which all made him deem that country as miserable, caused him to return speedily by Jerez and Tlaltenango.

Two years of constant regaling were employed by Sir John Tolosa, who more over contrived to win them over by his endearing affability, to conquer the precious cooperation of those bold and haughty mountaineers. In 1548 they pitying the fatigues of the Spaniards in exploring those steep rocks they began to show specimens of ores to captain Tolosa, the founder of Zacatecas.

Let us reproduce here the main part of an inscription that existed in the parish church of Zacatecas



Pachuca.—Mining estate at Guadalupe

(From a photograph of Briquet's.)

relating to the second mining discovery of the colonial epoch and which Trinity García inserts entirely into his interesting little work mentioned above:

«Year 1546, on the birthday of Our Lady, I, Joannes de Tolosa, entered these mines, and in the year 1548, day of lord St. Sebastian, January 20<sup>th</sup>, I, Balthasar Temiño de Bañuelos, entered these mines; and in this same year, on the day of lord St. Barnabas, June 11<sup>th</sup>, St. Barnabas vein was discovered, being the first silver vein ever discovered; and in this same year, on St. Benedict's day, the vein of St. Benedict's Albarrada was discovered; and in this same year, on All Saints' day, the Pánuco vein was discovered.»

By the working of these mines and of those discovered afterwards, Zacatecas began to call the attention of the world and was calling it during whole centuries, by the copious richness of its lodes.

The remarkable mineral layer of Paxco was discovered, together with that of Sultepec and the immediate one of Temascaltepec, in 1549, according to Father Cavo. Referring to the improvements realised in that year by viceroy Mendoza he says: «In aggregation to this it happened that not far from Mexico rich veins were discovered that were not ignored by the old Mexican Kings, as at Taxco, Sultepec, Temascaltepec and other villages whereby that capital increased in opulence.»

VOLUME SECOND

MINING

Select samples of the mineralogical collection  
of the School of Engineers at Mexico

( PHOTOGRAPHIC REDUCTION OF THE NATURAL )

Plate n.º 2

- |   |  |
|---|--|
| 1. Calcespar of Guanajuato.                 | 7. Calcespar. Guanajuato.                      |
| 2. Purified sulphur. - Of the Popocatepetl. | 8. Apophyllite. Guanajuato.                    |
| 3. Macled calcespar. Guanajuato.            | 9. Calcespar.                                  |
| 4. Dolomite.                                | 10. Apophyllite. Guanajuato.                   |
| 5. Calcespar. Guanajuato.                   | 11. Almandin. Salado - Colorado.               |
| 6. Amethyst quartz. Real del Monte.         | 12. Amethyst quartz. Guanajuato. - Sta. Linda. |









Some historians, like Alaman and the famous jurispudent Gamboa, in his commentaries to the mining ordinances to which he owes his great reputation, assevere the Taxco veins were possessed and worked by the conqueror, Ferdinand Cortés; however, after a prolix study, Trinity García, with a great copiousness of good arguments, has refuted, and victoriously in my opinion, the mentioned asseverations demonstrating that those «who continued the working of the Taxco mines, from 1570 to 1585, were the first descendants of Cortés, the marquises of Valle de Oaxaca.»

At the beginning of the same year 1549 or at the end of 1548, one of the convoys whereby the merchants were trafficking between Mexico and Zacatecas pursuing the mule track that passed through Querétaro, Guanajuato and Lagos, stopped towards evening on the summit of the «Cerro de la Luz» (Hill of Light). The Zacatec goldsearchers who formed part of the group, at once undertook to examine covetously the crests they saw there and became enchanted by their mineral glances. On the following day they continued their task and having determined the lode they called it St. Barnabas in remembrance of the Zacatecas one.

This happy discovery was soon followed by those of «La Luz,» «Melado» and «Rayas» and some years later on, that of greater moment, the famous «Veta Madre» (Mother lode) which together with the former was to produce the great riches that enhanced the town of Guanajuato to her greatest prosperity.

The increasing skill which the Spanish goldsearchers were acquiring by the observation of the mineral deposits already found; the re-

wards they offered the indigenous explorers and the pecuniary prizes decreed by the emperor for the finding of any new lode will have been the main secondary causes of the discovery of the famous veins at Pachuca. It was realised in 1551 and it appears that the first where work was begun were those of the Jackal and of the Oak. In these as at all the works of those first times the enthusiastic exploitation was effectuated by open cut. This work and that of all the remaining important veins, that were being discovered afterwards, carried to a lofty height the mining reputation of Pachuca.

However, great as it was, it was not enough to hinder it from being relegated to the background in 1557 by the marvellous metallurgic system of *beneficio del patio* discovered at Pachuca for the silver ore, by the famous Bartholomew of Medina.

In 1552 the strenuous chieftain Gines Vazquez del Mercado, seeking the silver mountain the minds of all the Spaniards were full of, discovered the famous hill which he gave his name «del Mercado.»

He became much afflicted when he was told by some Vizcayan soldiers who accompanied him and were great connoisseurs of iron ores, those constituting the mountain were such and of an excellent quality.

In 1554, Francis de Ibarra, by instructions from Tolosa, reconitred for the first time the veins of Proaño hill and later on, in 1561 founded there the mining camp of Fresnillo. The camp of Sombrerete was established in 1555 by John de Tolosa, the founder of Zacatecas, who in the same expedition created the mining settlements of San Martin de la Noria, Avino and Chalchihuites.

Martin Perez found the lodes at Santiago and Nieves after 1558 and in 1562, charmed by the fertility of the site where it is now, founded a «Nombre de Dios.» In the following year, on July 8<sup>th</sup> 1563, Francis de Ibarra erected, with every solemnity, the town of Durango into the capital of the realm of New

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Guanajuato. — Saint Xavier mine  
(From a photograph of Briquet's,



Vizcaya and in order to foment its prosperity he bought a rich mine, in the Anino district and yielded it to all who wanted to work it, on the condition of constructing their houses in the town of Durango. Such was the haste they made to work, at open cut and from the summit of the hill, that according to the same publicist García there is to be seen there: «a dell of more than two kilometers of length with from fifteen to twenty meters breadth and above eighty meters depth.»

In 1591, in virtue of a treaty of peace made by viceroy Lewis de Velasco with the Chichimec tribes the colony of San Luis was created under the viceroy's name near the famous mineral hill discovered not long before and called San Pedro.

The richness of the veins and a certain resemblance with the celebrated one of Peru seem to have been the causes why they gave this colony, now town, the name of San Luis Potosí. In 1656, Philip IV erected the town granting it for escutcheon, «the image of St. Lewis standing on the hill of St. Peter's mines, in gold and azure, with two gold bars in the azure and two silver ones in the gold.»

Two goldsearchers very clever in tracking the veins on the rugged hills, Antony Llamas and Sebastian Coronado, found in 1773 a lode of argentiferous ore on the Catorce hill and on the occidental slope of the peak of *La Barriga de plata* (the silver belly).

However the discovery of most importance for the future of the Catorce district, in view of the amazing richness of the discovered lode, was that realised in 1778 by Barnabas Antony de Zepeda, who on the rich large vein opened the famous Guadalupe mine.

Another mine of the Catorce camp, La Purísima, produced in 1795 in one sole week, ores for seventy thousand pesos; wherefore people would say «no mining camp gave so much surplus a week as Catorce, a month as Sombrerete and a year as Guanajuato.»

Those were the most important mining discoveries made during the colonial epoch.

As for the metallurgical proceedings, that of melting in small Castilian furnaces became quickly generalised, at the beginning throughout the whole extent of the country. But that method, then perfectly adequate to the working at a small scale, was not, to be sure, the one the Spaniards might avail themselves of to give, as they ardently wished, the mining works of New Spain a colossal enlargement and vigorous impulse. They sought therefore and sought eagerly, day and night, in their endeavour to turn to profit large quantities of our characteristic silver ores, the system which at the same time ought to be appropriate, simple and economical.

The mining camp of Pachuca happened to get the glory that on the estate «La Purísima» and in the year 1557, the famous and transcendental discovery was experimented with great success.

In that year, indeed, eminent Bartholomew de Medina, the Mexican genius of metallurgy, extracted for the first time, most easily, with little cost and in a relatively short time large quantities of silver from enormous masses of argentiferous ore.

His known and popular amalgamation system designed among ourselves by the name «Beneficio de Patio» and among the European scientists as «American amalgamation» was distinguished by the three qualities sought for, in such a degree that it was the realisation of the ideal. Five years later on, in 1562, there were at Zacatecas thirty five estates with amalgamation working and in 1571 Peter Fernandez de Velasco carried the system from Mexico and introduced it into Peru. And in Mexico, in Peru and in all Latin America this national system obtained the most brilliant results and gave the industry of exploitation of the subsoil a great and prodigious impulse.

It is amazing for the mind to consider that during three hundred and fifty years, in spite of the immense advances of the sciences and excepting some improvements of particulars, it has not been possible successfully to modify nor to replace with another for the argentiferous ore of a low standard as are those abounding in this country, immortal Medina's simple and marvellous system. With his salt, his mercury and his magistral, he has made to flow from the argentiferous ores, pulverised and placed into the courtyards of the mining estates of Spanish America actual rivers of silver, of interminable and plentiful current.

And those rivers have gone to the sea of universal circulation and in an efficacious and powerful manner they have contributed to foment agriculture, industry, commerce and what is still more, art, science and instruction.

However, neither the miners, nor the smelters, nor the merchants nor the learned, nor the governments of that epoch contrived, nor did those of our own days, to find the opportune moment and the propitious occasion to erect the monument due to Bartholomew de Medina. Due, certainly, for it would demonstrate men's gratefulness for the immense benefices of his brilliant stroke of genius, for his power of divination and for his scientific industrial achievement. But this proceeding, human to be sure, although perfectly adapted to the immense majority of the Mexican silver ores, is unable to reduce them all with the same conditions of the desired commercial advantages.

Those miners who called «metallic glances» the different aspects of the mineralogic species, knew that the «black» ones, the sulphides of silver, were to be found in the depth while in the superficial regions they found the «red» ones, the «oxydes» and the haloid salts, iodides, chlorides and bromides which they designated with the names of «green silver» and «horn silver;» they also observed that with the surface ores they suffered some loss by the amalgamation in cold, discovered by Medina and at any rate it were not losses they sought but gains they pursued.

To satisfy that exigency Alvaro Alonso de Barba took the Medina method for his base and modified it in something that proved appropriated to those ores and he amalgamated them in hot, in the vessels called *cazos* which give his system the name since the year 1590.

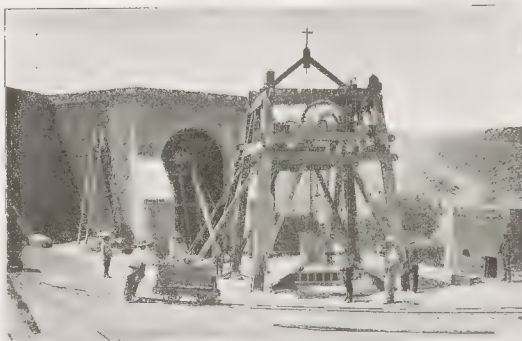
Other argentiferous ores accompanied in their matrixes by pyrites, iron sulphides, were subjected at the end of last century, after the necessary reverberation, to the metallurgical treatment of «amalgamation in tons,» also called «Treiberg method.» These were the most important systems of the metallurgic science employed in Mexico, during Spanish domination, to extract silver from argentiferous ores, whose exploitation on a large scale constituted ever since and is still to-day by excellence the characteristic feature of Mexican mining industry.

The silver ingots produced by those divers proceedings, at the working-estates or metallurgic offices went then in their immense majority and also are going to-day, as steel towards the loadstone, to the Mint.

The sole one then existent in New Spain and to-day the chief one of the Mexican Republic, that at the town of Mexico, was established there in virtue of the Royal Order of May 11<sup>th</sup> 1535 which disposed the erection of three: one at Mexico, another at Santa Fe and the third at Potosí in South America.

Before being founded by law, necessity had created an office denominated «la Fundición» (the foundry) where, according to the historian Orozco y Berra, «the gold and silver ingots were presented as well to pay the royal fifth as to get marked on the pieces their standard and value, so that they might be employed on the market, since then there was no other coined money in the Colony than the small quantity that could come over from Spain.»

In the first times of the Colony, as the Aztecs, excepting the little pieces of tin spoken of by Ferdinand Cortés, did not know coined money, the transactions were made by means of the signs they had



Zacatecas — San Rafael mine  
Photo by the B. B. Co.

as representatives of the values: for articles of first necessity small bits of cotton tissue that were highly esteemed; for objects of little price chopping knife shaped or T formed copper pieces and certain special grains of cocoa in *xiquipillis* (bags), each of which contained eight thousand such nibs; for the large values, the sack, containing twenty four thousand cocoa seeds. At last gold grains in feather quills of the highest transparency.

From 1535 to 1732 they coined at the Mint of Mexico the macuquina or cross money «ugly, unhandy and often incomplete in standard and weight.» It had on one side castles and lions with the grenade and on the other two columns with the famous Plus Ultra.

They then also coined copper money but the Indians would not take it and when they were compelled to accept it they preferred to lose the price of their merchandise and threw the copper into the Texcoco lake. It was necessary to yield before such a resistance and for the things of little value the cocoa grains continued acting as money. Then the value of the sack of twenty four thousands was fixed at twenty one pesos three reals and five grains.

In 1732 the Mint produced the first coin, round and stamped which they continued coining until 1771, calling it «columned or of worlds and seas.» At the obverse it showed the royal arms, castles and lions and in the mid the small escutcheon with the fleur-de-lis and a grenade at the foot with the inscription corresponding to the reigning monarch. At the reverse the two columns crowned with the Plus-Ultra and bathed by the billows of the sea. Between them two worlds joined by a crown and the inscription *Ultra-que unum*.

Lastly, Orozco y Berra says, in April 1772 viceroy Bucareli published an edict providencing as it was disposed in the corresponding Royal order:

Firstly.—That in all the mints of the Indies they should coin in total accordance with the punches, moulds and new stamps.

Secondly.—That all money should be of the established standard, weight and remaining conditions.

Thirdly.—That coinage of the new money, with the bust, should begin on the 1<sup>st</sup> day of January 1772.

Minute dispositions were given, besides, to take up the old money and all people were exhorted strictly to fulfil that obligation. And at the same time, the named historian says, «by a most reserved Royal order of March 18<sup>th</sup> 1771 it had been decreed that the gold standard should be lowered to twenty one carats and that of silver to ten denarii and twenty grains. And thereof the public for whom the moneys continued having the standard of twenty two carats and of eleven denarii ought not become aware. And in order to avoid this fraud from being known the officers of the mints were exacted a solemn oath not to disclose the secret.» And the King who decreed so, said in the mentioned Royal Order: «by an effect of my Royal pity always aiming at the greatest welfare of my vassals.»

But if here the public was deceived, the same thing happened not in Europe where they assayed the moneys and only paid them by their real value.

Let us now see what taxes were laid on mining. The Catholic Kings Ferdinand and Isabella issued in 1504, from Medina del Campo, a Royal Order by which it was decreed «that all the vassals, denizens and merchants of the Indies, who would extract gold, silver, tin, mercury, iron or any other metal, were to pay the Royal Patrimony the fifth part of their net produce without any discount or compensation for expenses.»

And this, the 20 per 100 of their produce, was the impost the miners had to pay during many years. In the course of time, the Royal Schedule of June 19<sup>th</sup> 1723, reduced the duties from the fifth to the tenth, the tithe, for gold and silver «from all the mines.»

Adding the five and seventy nine hundredths per cent (5.79 %) to which, according to the eminent writer Faustus de Elhuyar, the coinage duties amounted, we get an idea of those exactions which already are getting effaced in the dim remoteness of the past.

Sir Faustus himself masterly draws the sketch with a few strokes in the following way:

«Lastly, if to the mentioned quota of five and four fifth discount in the silver we add the eleven and



one third per cent, amount of the duties of 1 per 100, tithe, smelting and assaying, recovered beforehand from the miners by the Royal cashiers, the total discount suffered in that metal will ascend to 17,13 per 100.

»In the same way, the 3 per 100 recovered in gold from the same by the said cashiers aggregated to the 10 which must be considered as deducted at least at the Mint, the total discount suffered by this metal will rise to 13 per 100 and to more than 18 if we reckon the five and forty six hundredths. Thus it results that the Royal Treasury acquires without any risk and with a small expense, more than the sixth part of the silver and gold extracted from the mines of New Spain.»



Mexico.—Mining School. Mineralogy Hall

When the war for Independence broke out, the perturbation of order and the ensuing insecurity were the cause that the ingots of the precious metals were no longer sent to Mexico for coinage.

On the other hand, coins being necessary at many places far from the capital, authorisation was granted to coin provisional money.

So they did at Chihuahua from 1811 to 1814, at Durango from 1811 to 1821, at Guadalajara from 1813 to 1815 and from 1818 to 1821, at Guanajuato from 1812 to 1813 and afterwards in 1821, at Sombrerete from 1810 to 1812 and at Zacatecas from 1810 to 1821.

The great services they rendered commerce bestowed a permanent character on these temporary and circumstantial institutions and during many years they continued dedicated to the coinage of money.

A swift glance over the main dispositions dictated by the Spanish government on behalf of Mexican mining will get to vanish in part the impression caused by the fraud in the moneys.

The first law was that of November 24<sup>th</sup> 1525 wherein emperor Charles V ordered the discoverers of deposits of gold to swear they would manifest or declare it at the «Foundry.»

Certain special authorities for the mining department were likewise established.

In December 1551 emperor Charles issued a law, confirmed by Philip II in 1563 and 1575, by dint of which the Indians as well as the Spaniards might discover deposits of gold, silver and other metals and



what was just but not allowed them before, possess them, work them and by their exertion become independent.

In 1554, the intervention of lawyers in mining affairs was prohibited. The law of May 1573 established that the mines might not only be worked but also sold or leased. In several laws, of 1572, 1590, 1619 and 1620 it was providenced the miners and smelters ought to be favoured and considered in all their prerogatives and in case of debts they could not «be distrained or seized in their slaves, tools, maintenances or any other thing necessary for their work in order that this might not suffer the least interruption.»

The ordinances issued by Philip II in 1584, based on the principles of the mining laws of Germany and known by the name «Nuevo Cuaderno» (New Code) by which they were distinguished from the anterior ones, have been cleverly commented by the eminent jurist Francis Xavier Gamboa.

In his celebrated *comentarios* where you will find most useful statements, enthusiastic phrases like this «of gold and silver are the mounts of New Spain» and a doctrine explained with every clearness and correction, may be learned whatever one may wish to know about that ordinance that prescribed that «the radical domination of the deposits of gold, silver and other metals resides only in the Sovereign.»

In 1774 the miners of New Spain presented the viceroy a petition soliciting «not only to form a corporation, as it had already been ordered, but to establish a Bank of Advance, for the fomentation of mining, to create a College of Metallurgy (the word was then of a less specific meaning than it is now) for mechanics able to construct engines and to execute other operations of the craft, and that a New Code of Mining Ordinances was formed, counting for the endowment fund of the said establishments on the amount of the duplicate of the royalty duty with which their metals contributed and of which they purposed to be exonerated in consequence of what they also manifested in their petition.»

The viceroy transmitted the petition to the king with a favourable information and after the nomination of various commissions of the highest competence and their profound studies, the celebrated Mining Ordinances were issued at Madrid in May 1783 and promulgated in Mexico by a solemn edict, on January 15<sup>th</sup> 1784.

The distinguished mining engineer Santiago Ramirez in his interesting work: *La Riqueza Minera de México* when speaking of the Ordinances judges them with so deep a conviction of their goodness and with so much warmth and enthusiasm that I cannot forbear from transcribing entirely his well written and eloquent paragraph: «The respect this law deserves, the glory it reflects on its illustrious authors, the services it has rendered and is rendering and will still render our mining; the doctrine it implies, the teaching it spreads, the principles it involves, the justice it displays, the role it acts as the centre of our mining legislation, obliges to relate the history of its formation, promulgation and validity in our country.»

It is undeniable that celebrated ordinance must have had something and even a good deal of good and this is especially proved by the fact that it governed the working at all our mines during one hundred years.

Indeed, in January 1784 the Ordinance was promulgated and at the end of 1884, exactly on January 1<sup>st</sup> 1885, the new law was promulgated in its stead, the Mining Code of the United Mexican States.

And it must be added still, that the skeleton and the flesh and the blood of this Code were nothing but bone of the bones, flesh of the flesh and blood of the blood of the old, praised and suggestive Ordinances.

According to them, the mineral deposits were a property of the Crown, the king granting them to be worked, to individuals or to Companies giving these but greater extents than the former, but in both cases, the shares were too much reduced. The working, the ventilation and the drainage of the mines were strictly submitted to the fiscalisation of the State.

The working should continue at least during twenty six weeks every year. Denunciation and loss of property constituted a constant threat and an excessive punishment in every case of contravention; and

lastly the intrusion of the neighbouring miner was not only lawful, but this last was authorised to exploit the alien deposit until the injured came to communicate with the intruder's work.

The King acceding to the petition of the miners who therein followed Rebocato's initiative in 1743, cleverly enforced in 1761 by Gamboa, ordered the erection of the Silver or Advance Bank. Indeed, by title sixteen of the Ordinance it was determined that with the product of two thirds of a real of every mark that was to be payed without exception on all the ingots of silver introduced into the Mint of New Spain or which in bullion was remitted to the Peninsula, a special Mining fund should be formed.

«The administration, collecting and custody of the sums that would be gathered in this way are to be done and always to be at the will and disposal of the Miners Corporation to which it belongs, by means of their Royal General Tribunal of Mexico representing the same. Sundering from these sums what would be necessary to maintain the said Royal Tribunal and the College and instruction of the young men destined to mining and the extraordinary and precise expenses they would yield on behalf and common utility of the same important body thereof, all the remaining surplus and the successive increases and produce there might be, are to be destined to be inverted precisely in advances and expenses for the working of the mines of the realms and provinces of New Spain, establishing a Silver Bank.»

This Bank was not founded with the character of a monopoly, but with that of an aid and foment, for the king said also: «If a competence were raised to habilitate a mine between a private person and the said Bank, I declare the private adventurer is to be preferred under equal circumstances, that he may at once enter to prepare the mine.»

At the light of our present economical knowledge several of the principles of the Ordinance are highly censurable, as well as the management of the miners' Bank; but considering the epoch at which those dispositions were issued one feels inclined to regard them in their essence well inspired, convenient and opportune.

And it cannot be doubted that the Ordinances, the Royal Tribunal and the Silver Bank, of king Charles III, in spite of their great defects produced large benefices for Mining in New Spain. However, we cannot but protest against the exorbitant imposts and the legal character bestowed on the intrusions on other people's property. The former may find some excuse in the fact of the extraordinary abundance of the produce of those wholly virgin deposits; the latter nor then nor now, nor hereafter could find or meets or will ever obtain disculpation; there is no principle which might be invoked against morals.

But let us endeavour to forget that impression while contemplating, at least for a few moments, the actual, the useful, the grand monument destined to the progress of Mexican mining.

The initiative came from the miners and the erection took place in the last periods of the colonial epoch, by the legislature of king Charles III. That glory of the colonial government, the famous Mining College, to-day National School of Engineers sprang up out of the juncture of three other glories: that of the miners who gave the funds; that of the eminent artist Tolosa who built it and that of the great



Panorama of Real del Monte  
*From a photograph of Br. Jact's*

professors who at the beginning gave it so much splendour: Joachim de Velazquez Cárdenas y Leon, Faustus de Elhuyar and Andrew Emmanuel del Rio.

In the halls of the establishment we behold cutting a worthy figure the portraits of those eximious professors, as also that of immortal Alexander von Humboldt who rendered so great services to Mining and to all the branches of national wealth by his celebrated work: *Political essay on New Spain*.

About the nursery which is so just a cause of our pride, for as National School of Engineers it has not decreased in merit either regarding the cleverness of its professors or the intelligence and seriousness of its alumni; of the old and just fame of the Mining College Santiago Ramirez speaks as follows: «It is an honour of our country, the fruit of the patriotism, illustration and wisdom of its immortal founders, nursery where nearly all the positive sciences were born and bred that are cultivated among ourselves to-day and a hall where our generations of miners have been formed.»

But I am going to put a final dash to this historical sketch of colonial Mining because we are approaching very quickly the instant of our blessed war for national Independence.

And to close that period of our mining industry's evolution let me insert at once the interesting table formed by conscientious Emmanuel Orozco y Berra regarding the coinage of silver, gold and copper during the three centuries of the colonial epoch.

From the statements collected and discussed by Orozco it appears that coinage was increasing in Mexico constantly and progressively, arriving at its culmination in 1805, in which year more than twenty seven millions were stamped.

Now the table is this:

COINS	SILVER	GOLD	COPPER	TOTAL
Smooth-edged. . . . .	752.067.456	8.497.950	200.000	760.765.406
Columned. . . . .	441.629.211	19.889.014	000.000	461.518.225
Busted. . . . .	888.563.989	40.391.447	342.893	929.298.329
Pesos. . . . .	2.082.260.656	68.778.411	542.893	2.151.581.960

### III

#### INDEPENDENT EPOCH

For individual men and for nations the most appreciated good, the supreme good, is independency, in as high a degree as possible within human society.

Because it is it which engenders the most appropriate state of mind in order that success may crown the efforts of honest work.

And in these conditions the ones and the others become the most ardent and efficacious collaborators in that incessant but grand and lofty struggle for mankind's progress and welfare.

The slavery of work, either corporal or intellectual and whatever the form and matter of the chain may be, makes the springs of will burst in pieces, hurls the germs of intelligence into the abysses of naught and peoples the Earth with vegetal men and with sick States, with social cyphers.

Only political and economical independency and well arranged autonomy of the labours, that is to say, only scientific realisation of the ideals, can and does produce free, intelligent and useful men and pacific and vigorous nationalities.

Of liberty scientifically established in all the manifestations of human exertion, order is an inseparable companion or inflexibly arises therefrom, and therewith, it is well known, progress is quickly attained.

But the way leading to such culmination is long and thorny. As for the nations, political independence precedes, and for a long time, economical liberty. Among ourselves, the former was desired, with an indefatigable and ardent resolution to obtain it, being finally consecrated in 1867, and was conquered in 1821. As for the latter it is only twenty five years it was born and by the quickness of its development we hope to confirm it very soon.

Independency having been realised, what was the state of Mexican Mining and what did it do?

In the last years of the Colony, the works of count de Regla at Real del Monte, of Laborde at Tlalpujahua and at Taxco, and of the Fagoaga family at Sombrerete had succeeded in carrying the production of silver ores to the then possible maximum.

However the lightning of war undid every thing and in 1821, in the mining districts there was but rubbish and desolation and ruin to be seen.

Everywhere solitude and silence. It was but little, very little the mining industry was able to advance during all those years of a long and painful convalescence of the Mexican nation; something, however, was done.

On February 13<sup>th</sup> 1822, the first Mexican Congress issued a law suppressing the old duties on gold and silver bullions and establishing a unique impost of 3 per 100 on the value of these metals.

The decrees of October 8<sup>th</sup> 1823 exactly fixed the circumstances under which foreigners might acquire the property of mines.

That of May 20<sup>th</sup> 1826 extinguished the Mining Tribunal setting in its place a Board, substituted at its turn, in 1842, by another denominated «Mining Fomentation and Managing Board.»

Special franchises were bestowed on the wor-

king of quicksilver ores exempting it from all impost, in May 1843. And they established the Practical School of Mining and Metallurgy that gave brilliant results for the instruction of our engineers, in July 1853. Of that law Santiago Ramirez rightly says: «it is a monument of glory for its intelligent and well intentioned author, sir Joachim Velazquez de Leon.»

The law of May 20<sup>th</sup> 1861 ordered commissions to be named to study the reforms convenient to be introduced into the Mining ordinances.

And lastly, the decree of January 8<sup>th</sup> 1865 ordered every mine owner to have a representative at the ubication place of his mine.

Since the year 1824, a powerful company had been organised at London which, allured by favourable news, consecrated its capitals to work the mines at Pachuca and Real del Monte.

That English company sustained its works as long as 1849 when it dissolved in consequence of the failure of its exertions, for from 1824 to 1847 the expenses amounted to \$ 15,382,000 gold; the value of the produce was \$ 10,481,000, the loss ascending thus to \$ 4,901,000.

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Silver objects of Alfred Chavero's rich collection



What was the cause of so lamentable a failure?

The abundance of ores in the lodes at Pachuca and Real del Monte was well known since the foregoing centuries and at the beginning of that which has just gone by, Baron Humboldt said they had a «great celebrity because of their antiquity, their richness, and their proximity to the capital.»

And in another passage of his interesting work he added that «the Pachuca group, *one of the richest of all America*, is wholly abandoned since the horrible fire that happened in the famous mine of Encino.»

Only the want of knowledge of the local working methods or the lack of the necessary flexibility to adopt them in their good part, professional mistakes in directing the works and deficiencies in the economical organisation can have been the causes of that unlucky end.

And there is so much more reason to believe so, as, according to the distinguished engineers Buchan and Burkart who wrote so much and so well about Pachuca and Real del Monte, and concordant, moreover with the posterior statements of Santiago Ramirez, the company which received that inheritance in 1849, spent on those mines from 1851 to 1862 \$ 8,279,000, extracted and smelted ores for the value of \$ 18,428,000, earning a utility of \$ 10,149,000.

That year of 1849 was a black one for our mining industry not only through the dissolution of the English Company of the Real and Pachuca, but especially through the death of the distinguished scientist Andrew Emmanuel del Rio, founder, together with Elhuyar and Velazquez de Cárdenas y Leon, of the Mining College and during fifty years, from 1795 to 1845, his scientific enthusiasm, never abated and always lofty, poured in streams over the young miners the light of his knowledge through his works and above all, from his professorial chair of Mineralogy.

His pupil and worthy successor in intelligence and consecration to mineralogical science, Antony del Castillo, held the same chair for fifty years longer, until 1895, when he disappeared for ever out of the sight of those who like ourselves were his pupils and seized with emotion deposited on his tomb the flower of gratitude and affection. A century of indefatigable work and teaching between two men!

Before, the very year of Independence, in 1821, the lodes of «Jesus Maria» had been discovered in the State of Chihuahua, and its working, according to Santiago Ramirez, had produced, in sixty three years, until 1884, the sum of 60,000,000 pesos.

At the beginning of 1825, the marquis of Guadalupe and Mr. Llaño, a clever Spaniard, realised works of importance at the mines «Santa Francisca» and «La Descubridora» of the Real de Asientos, in the State of Aguascalientes.

And in the State of Chihuahua, in 1826, they discovered the lode of San Pedro Alcántara which in the first epoch of exploitation work produced a utility of 400,000 pesos.

In 1828, the people of the State of Zacatecas chose for their governor the distinguished statesman Francis García who, on January 2<sup>nd</sup> 1831, in his report to Congress, called his countrymen's attention on the importance of Mining.

«This branch is to-day and will be so for many centuries, he said, the richest of the State if it is fomented as its unquestionable importance deserves. Bestrewn, so to say, with infinite minerals whereof scarcely a small part has begun to be worked, it is apt to produce by itself alone more metallic riches than up to now have been extracted from all America.»

Being an enthusiast of the exploitation of the subsoil, he founded several important mining enterprises and created at Fresnillo a penal establishment destined to work the Proaño mines. At the moment of his initiative, he stated himself, «Fresnillo was about to disappear from the face of the State.» And at the close of the year 1834 Trinity García manifested, «the enterprise was in full prosperity occupying more than three thousand people at the mines and the estates, having fifty three windlasses in activity and the buildings for large metallurgic works were far advanced.»

«He had contracted at London two large engines for the draining of the mines and the stocks of the exploitation were worth more than two millions of dollars, the yearly benefice being reckoned at half a million.»

If governor García's economical dispositions may be censured by some severe criterion, there is no doubt he ably contrived to steer his native State towards prosperity.

«Now descending, by virtue of the Law, he said in his last report to Congress, from the high post my countrymen placed me on, I cannot but tribute them my most cordial and fervent thanks for the immense favours they have bestowed on me during the long and stormy period of my administration.

»Neither the perils, nor the mishaps, nor seduction were ever able to make them lose the confidence they once had deposited on me.

»I should not have done anything, I should have been nothing, had it been my lot to govern a less virtuous people: to this alone I am indebted to be able honorably to leave the political stage.»

«What a singular contrast—Trinity García says—so much humility and modesty present coming from so much majesty and greatness!»

Since 1828 the existence of mineral deposits at Guadalupe and Calvo was known; but a formal examination of the crests of the veins was effectuated only in 1835 and from that year to 1840 the produce of the mine «El Rosario,» according to Santiago Ramirez, reached the sum of \$ 11,882,000.

The divers English companies which at that epoch, and with big capitals, worked mines at Real del Monte and Guanajuato, Bolaños and Zacatecas, Catorce and Sombrerete, contributed to the formation of a new one, the Mining Company of Guadalupe and Calvo District.

Its director, Mr. Mackintosh, seems to have been the first who turned to profit, for the amalgamation system, the sulphate of copper, an accessory product of the sundering of the precious metals.

He is also said to have introduced the use of copper mass in the draggings that serve to amalgamate gold, in the same manner as he successfully used it in the silver amalgamation with the aim of accelerating the end of the operation and of increasing somewhat the yield of silver.

In 1845 serious works were realised at the mines of Guanaceví, in the State of Durango.

And an information redacted in the same year of 1845 by the Mining Deputation of Santa Rosa, in the State of Coahuila, states there were several mines working in the said State, deserving those at Jiménez a special mention for the high standard of their minerals and those of Potrerillos by the uniform richness of their lodes.

In 1850, and in the mining district of Tapalpa, in the State of Jalisco the Tula foundry was established, to extract the metal from the red and brown hematites of the mines «Taoles» and «La Mesa» whose ores contain 65 per 100 iron and yield products of a superior quality.

In 1853, public attention was called on the works at Proaño mines in the District of Fresnillo, by the wise organisation their intelligent director contrived to give them in their technical and economical part. And that was the motive to found there, as we have stated, the Practical School of Mining whose distinguished professors and pupils gave it so great a brilliancy by the studies they published about the exploitation of mines and metallurgy, as also on appliances of chemistry, mechanics and geology.



Gold objects belonging to Alfred Chavero's magnificent collection

The learned professor Antony del Castillo made the public aware in 1857, of the importance of the mining districts of «San Antonio» and «El Triunfo» in Lower California.

Legislative unity, not only convenient but indispensable for the development of the mining industry was kept up in the country until the year 1857.

Indeed, in conformity with the Constitution of 1824, the legislative faculties in so important a department were always considered as belonging to the exclusive competence of the federal powers; however, the supreme law, base of the Republic's institutions, promulgated on February 5<sup>th</sup> 1857, yielded that attribution to the free and sovereign entities of the Federation, for by its article 117 it declares that «the faculties not expressly granted the federal functionaries by the Constitution are to be understood as reserved to the States.»

Notwithstanding, so deep were the roots of the custom that the Federal Power was to legislate on mining affairs, that the Law on rent classification, of September 1857, declared federal goods «the mines, deposits of pit coal, fossils and other subterraneous matter» and it was necessary to derogate that notoriously anticonstitutional disposition, by means of the Rent Law of May 30<sup>th</sup> 1868.

As for money, ever since 1813, the Congress met at Chilpancingo got its own showing at the obverse the eagle on a nopal and with a snake in the beak and around: «Congreso Americano.» Then came Iturbide's imperial money; at the obverse it had his bust and at the reverse the crowned eagle on the nopal and completing itself on both sides, the label: *Augustinus, Dei providentia, Mexici primus Imperator constitutionalis.*

A little later the republican moneys came out, of gold, silver and copper, showing stamped on their obverse the national escutcheon with the lemma: «República Mexicana.» At the reverse of the gold coins there was to be seen a hand leaning on an open Code and sustaining on a rod the cap of freedom; on the circumference the inscription: «La Libertad en la Ley.» In the silver ones the cap of liberty in whose centre the light irradiated in gusts and at the circumference they expressed, quite as the gold ones, the value, place and year of coinage and the standard of the money. The reverse of the copper ones had a fringe formed of two palms and at the centre the marks of the value, standard and year.

Later on, there came, lastly, the moneys with Maximilian's bust.

The difficulties, dearness and insecurity of the transport of the precious metals in consequence of the state of war, compelled to erect several Mints at different towns and epochs, some of which were shut afterwards.

In 1821 they opened once more that at Guanajuato which had been closed in 1813.

In 1827 they founded the Mint of Tlalpam that coined money up to 1830 when that town ceased to be the capital of Mexico.

That of San Luis Potosí was established in the same year 1827 and in 1840 that of Guadalupe y Calvo, which ceased working ten years later, in 1850. Those of Culiacan, in 1846, of Oaxaca in 1859 and of Catorce for a short time, in 1865, were the last established during the period I am relating which reached its culmination in 1867, by the definitive, tragical and grand confirmation of our political independence.

During those forty six years, as well the exploitation of the mines as the metallurgic industry, differently from what happened during the longer part of the colonial epoch, were guided on their rough way by the scientific lights irradiating from the, already since then, famous Mining College.

From the chair, the book and several periodical publications we see reflecting with more and more intensity the great advancements that were realised in the first half of last century by geology, mineral chemistry, topography, mineralogical science and by the increasing applications of mechanics.

And with the progress of such sciences, Mining advanced, because they contrived to conquer the resistencies and the stumblings and the delays of our intestine wars and they also were helps for our national industry, by excellence, to stride on through desolation and sadness and ruin, when, opposing the unjust invasions of the foreigners, our nation stood up erect to wage the great combat: the holy war for independence.

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MINING

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**Panorama of Guanejuato**

(FROM A PHOTOGRAPH BY BRIQUET)









There were several publications which from 1821 to 1867 contributed to propagate knowledge of moment for our mining industry.

The distinguished writer Faustus de Elhuyar published in 1825 a very interesting memoir on the influence of Mining on the Agriculture, population, industry and civilisation of New Spain.

The celebrated professor Andrew Emmanuel del Rio who got printed in 1827, 1832, 1841 and 1848 works of greatest importance on geological science and mineralogy; Grolt y Berghes with his geognostical map of the main Mining districts of the State of Mexico, in 1828; the History of Royal Finance



Real del Monte.—« La Dificultad » mine

in 1845; Saint-Clais Duport's well known book on Mexican mining production, in 1843, and the Memoir on Mints by Bonifacius Gutierrez in 1847 rendered and are rendering services of the greatest usefulness and of analogous transcendancy are the teachings of the scientific Memoirs of Burkart and Buchan, of Uslar's work, in 1853; and from 1845 to 1863 of the Mining College's Annularies. To these most useful works may be added those of the Annals of the Ministry of Encouragement in 1854, those of the professors of the Practical School of Mines in 1864, and those of Antony del Castillo in 1857 and 1865 and so we have a complete table of the most interesting publications of that epoch.

And to conclude with all referring to the same and to give an idea of what our mines produced during it I may state that, according to Mr. Orozco y Berra, the total coinage, from 1821 to 1867, was 691.791.512 pesos.

This sum does not represent our mining produce, for several times the exportation of ores or of gold and silver bullions, was authorised, and very frequently they were exported clandestinely and moreover, industry and jewelry are consuming variable quantities of the precious metals.



But as the manufacture of money was then and continues being now the manifest destiny of those metals of ours, the figure serves, with all clearness, as an exponent of something interesting: indeed it demonstrates that within forty six years, in spite of so much war and in virtue of more science, our mines produced almost the third part of what those virgin deposits yielded during the threehundred years of the colonial epoch.

Summing the produce of both periods we reach the number of 2,823,437,000 pesos.

«A prodigious sum,—the distinguished publicist Orozco y Berra exclaims.—Each one of those pieces of money will have served once and many times to remedy wretchedness, to acquire the needful, to satisfy a whim, to purchase a crime. This stream of gold has gone to influence humanity, as if it had life and thought, inciting bad passions, giving salutary counsels, stirring the minds and being the arbiter of a great number of actions. The inert matter torn from the entrails of the earth, with much sweating and not a few deaths, converted into a god by covetousness, came out to receive general adoration and to dispose of commerce, industry and even the fate of peoples.» *We are digressing*, he says immediately; let us return to our numbers.

And notwithstanding, he disposed of as much space as time.

To the present writer time and space begin to be wanting. With more reason, then, he must say: *let us not digress*. The study of the contemporaneous development of our mining industry and national metallurgy is waiting, in this pacific period, fecund of liberty of conscience, of scientific judgment and economical independence. Such is, indeed, its transcendental character.

#### IV

##### PRESENT EPOCH

(1867-1901)

The men of the ideas and through them remarkable in the history of every people, are at the same time great figures in the history of mankind.

And if their withered dust lies in a local tomb zealously guarded by love and gratitude, their imperishable thought continues everywhere lighting universal conscience.

For any endeavour aiming at a nationality's progress proves at the last analysis to be but a living force pushing on the advancement of the human species.

Those who initiate and those who carry out the political and economical independence of the nations, endowing them thus with the most powerful stimulus to consecrate themselves to the work that regenerates, vigorises and aggrandises them, and those who in any country struggle for the liberty of human work in all its manifestations, for liberty of conscience and for liberty of thought are well deserving in strict justice, not only of their countrymen, but of the whole mankind.

Into the book of humanity therefore some most illustrious names must be transferred from the annals of Mexico. That of Hidalgo, the blessed father of our country, who initiated our political independence and sowed into the furrow of the times the fecund germ of the freedom of labour. That of Juarez, the great reformer, intelligent and bold, patient and persevering, energetic and believing who confirmed for ever, in 1867, against everything and everybody, the Mexican nation's independency; who, some years before, in one of his moments of greatest helplessness and when everything was conspiring against him, with one hand undid the links between Church and State and with the other lifted to the sky the liberty of conscience.

And afterwards when the Republic had triumphed, in order to assure her advances, he armed youth with that powerful weapon of conviction, love and light which is called scientific criterion.

It was he, indeed, who unifying the preparatory instruction for all the careers and founding it on the study of the sciences, endowed the Mexican brains with the best, the surest method, the investigation of truth.

«Respect for other people's right is peace,» great Juarez proclaimed and the remembrance of so fecund and transcendental a principle in every important problem of the country, has enthroned, at length, among ourselves, during the last twenty five years, an unalterable and complete tranquillity; and therewith the Nation's intelligences, activities and energies have been able to consecrate themselves to the fomentation of Agriculture and Mining, of Industry and Commerce and of administrative organisation.

In the struggles of the future triumphs will be more numerous and more important, since it has, happily, been possible throughout the territory, and from primary instruction to professional one, carefully and heedfully to attend to our social organism by excellence, the *Mexican School*.

Later on, the name of him who has presided over the Republic during this peaceful and serene epoch of her prosperity and advancement, will pass to History. He is still living. It is not becoming in us Mexicans, his contemporaries, to speak of the national aspirations and qualities so well represented in this period by the distinguished statesman who has consecrated his life to the maintenance of peace.



Guanajuato. — Panorama of Cata

What progress has been realised by the Mexican Mining Industry since 1867?

Let us see.

Since, in February 1857, the Federal Constitution we are governed by was promulgated, it was understood the faculty of legislating in the Mining department was reserved to the States of the Union.

The dispositions dictated in virtue thereof by the said Federation entities had for their base the articles of the famous Mining Ordinances. Only two of them, Hidalgo and Durango, managed to study and constitute a special Code for their mines.

However, those measures, varying from State to State, made capital withdraw, and especially in the question of imposts they produced an almost unsurmountable obstacle for the development of mining industry.

This state of things induced President Juarez to cause a special commission to be named to study that great difficulty with all due care and in 1868 the distinguished commissioners presented Government a luminous report.

Therein the engineers Velazquez de Leon and Antony del Castillo contrived to demonstrate with evidence that by dint of the fact that our silver mining wealth rests above all on the abundance of ores of a poor silver standard, each reduction of the imposts has always been answered by a great increase of production of the Mexican mines.

On the other hand, it is obvious, that, happily, the same beneficent result has been produced by the economies realised in the general expenses through the advancements with which incessant scientific

progress has pushed on the Republic's main industry in various epochs of last century, especially in the last years.

Unluckily, at that moment very little or nothing could be done to free it of charges and only later on it became possible somewhat to reduce and to unify the imposts that weighed heavy on mining and which still at present and in spite of our indisputable advance in all departments constitute an obstacle for the unencumbered progress of the national industry by excellence.

At the same epoch another commission was named by Government composed of two mining engineers and two lawyers charged to formulate a bill of a Mining Law for the Federal District and the Territory of Lower California. The bill was presented but not enacted.

The Mining Districts which at that time continued distinguishing themselves by the important production of their gold and silver mines, and particularly of the latter, were the same as had earned a great reputation in the colonial epoch, to wit: Pachuca, Guanajuato and Zacatecas and the most famous ones of the States of Durango and Chihuahua.

The moment had not yet arrived, it came afterwards, when the attention, without ceasing to be preponderantly fixed on the precious metals, also minded the convenience likewise to turn to profit the other mineral species abounding in our mountains; a moment foreseen by the learned baron Humboldt when in his work on New Spain he said: «At the rate that population will increase in Mexico and its inhabitants, less dependant on Europe, will better observe the variety of useful products earth enshrines in her bosom, the working system in the mines will change its aspect.»

«Government will encourage the works aiming at the extraction of the mineral substances of intrinsic value; private persons will cease to sacrifice their own interests and the public ones to inveterate prejudices and will become aware that the exploitation of a mine of coal, iron or lead may yield as much produce as a silver lode.»

But in the first years of the present epoch people did not yet mind but gold and, above all, silver.

And if then public interest was not roused by the importance of the discoveries that might be made of new mineral deposits, nor the reduction of the imposts was obtained, nor the Mining Ordinances were reformed, it is but just to mention that the mining bibliographical movement was worthy of consideration.

Indeed, they published at Paris in 1868 the work: *Las Riquezas Minerales de México*, by Vignetti; in 1869, *La Exploración Mineralógica de México*, by Guillermin; and in 1871, the *Manual de Explotación de Minas*, by the Mexican engineer Francis Hermosa.

In the same year 1871, Antony del Castillo brought out at Mexico his interesting pamphlet on quick-silver mines and in 1873 there appeared *La Minería Práctica*, by Castelazo, and the important specialist periodical *El Minero Mexicano* was founded.

The study on the mesozoic rocks of Mexico, by Marianus Bárcena was printed in 1875 and the same year brought us: *La Concentración de los Minerales*, by Contreras; the *Tablas de precios y valores de los metales preciosos*, by Mendizabal, and the *Ensayes al soplete* (Assays at the blow-pipe), by Severus Navia.

The *Ensayes Minerales*, by César, appeared in 1876, and also the periodical *El Explorador Minero*, which continued coming out until 1877.

The year 1871 was a black one for National Mining, because in it the terrible fire at the mine «Quebradilla» in Zacatecas took place, wherein the distinguished engineers Lavista and Calderon perished giving an example of noble abnegation in their humanitarian and ardent wish to save their workmen; also the manager of the business, Joachim Maria Ramos, had been very near death.

In exchange, in 1873, the first important railway in the Mexican Republic was inaugurated, that from Mexico to Veracruz, forwarding some rather considerable facilities to the development of the mining district of Pachuca.

In 1875 and 1876, use was made for the first time at the mines of Real del Monte as well as those of Catorce of mechanical perforation by means of compressed air, for the opening of the boreholes.

And lastly, at the International Exhibition of Philadelphia, in 1876, our mining show was remarka-

ble, public attention being called chiefly by the rich masses of silver iodides, chlorides and bromides of Catorce; by the fine calcareous alabasters of Tecali, in Puebla, and by the most beautiful milky and fire-red harlequin opals of the State of Querétaro and of Zimapan in the State of Hidalgo.

As for the national money, the republican one was coined from the first times adjusted to decimal division and as well known and renowned as opposed by many and in spite of all things and all opposers deeply and constantly estimated in the countries of Asia; it is the silver money that has almost sunk to the last limits of depreciation on the international market; but which religiously conserved among ourselves for home transactions as prudence and economy advised, has saved us at length, from all the crises, some of them terrible ones, out of which the Mexican nation's credit has been able to come out undamaged and strengthened.

A financial mechanism which at every step the value of silver descended or descends, answered and continues answering with some advance of importance in our national Agriculture or raising a new manufacture at the foot of our beautiful waterfalls.

Silver which instead of leaving the country, since it finds itself depreciated abroad, is fomenting at home with unwearied steadfastness railroads and telegraphs, highroads and harbourworks, all kinds of productions of agriculture and industry and thereby exportation commerce.

Silver which during centuries had been the unshakable base of our economical edifice and which when feeling wounded, endeavours to be obtained more economically and efficaciously pushes on all the great scientific progresses unceasingly realised by the working of the mines and metallurgic industry.

Silver, at last, which by quite different means consolidates from hour to hour economical independence and which in its form of money deserved that our great Juarez consecrated it a circular radically distinct in its moral conceptions from those shown in the private Royal Order mentioned before as directed by the government of the mother country to the viceroy of New Spain.

In that circular, of September 9<sup>th</sup> 1868, the upright minister of Encouragement, Blasius Balcárcel, said: «The citizen President of the Republic wants to obtain by all means that public confidence deposited on Government is not deceived in a matter of so much transcendancy and which affects all classes of society; the public agents ought to second in this particular the vigilance of Supreme Government which eagerly procures not only that the national stamp on the money may deserve a respectable trust founded on the exactness of the value of the coins, but that it be considered keeping up, even in insignificant values, the interests of all and every one of the holders of that money.»

The productions of silver and gold at our mines, in the first ten years of this epoch, must be estimated, according to most writers in 20 or 25 per 100 more than the coinage as for silver and from 25 to 30 per 100 more regarding gold. Coinage was as follows: from 1868 to June 30<sup>th</sup> 1877, \$ 192,271,000 which for those nine years six months means a yearly average of 20,240,000 dollars.

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Durango. — Foundry at Mapimi



To sum up, in the decennium, we were speaking of, thanks to the efforts of Government, on one hand, and to the profound studies of the engineers and lawyers commissioned thereto, on the other, several ideas of the greatest transcendancy began to be popularised, on behalf of our mining industry: necessity to reform the old ordinances; convenience of reducing to its just limit the imposts laid on Mining; extraordinary and well proven importance of mining and metallurgy for the fomentation of agriculture, transports and Commerce, both at home and abroad. However, above all this, there is no doubt, the finest legacy of those two lustra was the young generation already armed with the scientific criterion and who began to exercise their influence on the progressionist movement, thus preparing for the country its most worthy and brilliant future. So we arrive at the year 1877, in which with the reign of peace a new era began for Mexico.

### ECONOMICAL INDEPENDENCE

In our legendary struggles, of seven and fifty years; in that endless fight we pursued with eagerness and by logical evolution independence from the mother country and from the tutelage of foreign government, freedom of work, freedom of thought, freedom of conscience and separation of the Church and the State.

In 1867, those political ideals had been attained, but much was still wanting: scientific emancipation, economical independency.

By the study of the sciences as a base for all professions the former had the unique solid ground and the access of the latter had been made easy.

Ten years later, in 1877, the lava currents began to cool. The scientific criterion had not only succeeded in germinating but had come to flourish and almost to fructify. The moment, therefore, was the opportune one, because all the inhabitants of the country now wanted, with unshakeable resolution and ready to bring any sacrifice, peace, order and progress.

The engineers who were to realise the transformation were standing on their posts irradiating from their foreheads the quiet, scientifically methodised, light of their strong and fecund intelligences. And at the appearance of the elevated personality that has been the incarnation of the fixed idea, the Mexican people's will, undivided in this case, sprang up, so to say, and still continues vibrating.

Their combatant mind oriented towards work makes them march almost in a straight line with unwearied energy.

It is moving in the necessary and appropriate medium which is the interior peace between all the elements of the Republic and the exterior between this and the remaining nations of the earth.

And in this struggle, both useful and educational, the noblest aim is pursued, the advancement of the country, beautiful by itself and attractive in so much as it will contribute to the progress of mankind.

It is already more than a quarter of a century we came out, with our transcendent political ideas, of what for many superficial observers was but the black awful abyss of irremediable anarchy.

And ever since we are working restlessly for the material aggrandisement of our native country.

Engineers are multiplying; they are everywhere and always at the lofty level of their beneficent mission. In spite of their modesty originated by their truly scientific studies, they will not be long in becoming quite aware that the social stature of their noble and honourable profession is rising more and more.

Their labours are useful, indefatigable and varied: lighthouses on the coasts, piers in the harbours, drainage of the valley of Mexico; sanitation of the capital and other important towns, nearly terminated; the Intercean railway of Tehuantepec which before two years will render international commerce great service; geodetic and topographical works of importance; untiring watches at the National Astronomical Observatory on behalf of the Map of the Sky; meteorological observations throughout the country; unceasing explora-

tion of the territory; fine buildings and artistical monuments embellishing the towns; above fifteen thousand five hundred kilometers of railroads; more than seventy thousand kilometers of wire for electrical communications; hydraulic works of serious importance to turn to profit the force of our numerous waterfalls for the development of industry in general; manufactures arising at the foot of the cascades; works of no less interest to water vast extents of ground dedicated to agricultural exploitation.

And the production of the same, more and more varied and important, not only already sufficient for the home consumption in general, but more and more contributing, with notable figures, to commercial exportation.

As for Mining, which is by excellence the characteristic industry of our country, its products are increasing, from year to year, since four centuries ago, the two last lustra standing out so as to call people's attention. In the year ending June 30<sup>th</sup> 1901, our miners cast into the sea of circulation, according to the distinguished Director of the Mexican mints, an impetuous torrent of ten millions in gold and more than seventy four millions in silver value. And appreciating after engineer Charles SELLERIER's statements for 1898-1899, the total production of the various elements of our fertile subsoil, englobing that of the precious metals, must have surpassed the sum of one hundred fifty millions.

Such are, in Mexico, the results of the engineer's professional work.

As a due crowning of all those exertions and of the opportune fiscal measures of the present clever Minister of Finance, we have reached at home a financial situation of solid and increasing prosperity and abroad we have earned a more and more accentuated and universal respect of our credit.

Now, in this epoch of so much working, of so much toiling in the arts of peace, what progress has been realised by the miners' industry? and at what rate national mining has exercised an influence to attain many of the country's advancements?

Let us study this question with all possible clearness and the greatest conciseness.

In 1877 the Practical School of Mines and Metallurgy which the revolutionary waves had swept off from the Mineral del Fresnillo, was established anew and with that useful institution, founded at Pachuca, our specialist engineers have improved their knowledge becoming more and more renowned as directors of mines and of metallurgical establishments. Three years before, in 1874, the depreciation of silver began to be noted on the international market, and the Mexican peso which during a century and a half, until 1857 had reigned like an undethronable sovereign in the mercantile transactions of the United States of North-America, as a brilliant study of the distinguished economist Joachim D. Casasús has just remembered us, began to feel, like other silver dollars, that it became relegated to the second rank. Its powerful rival, gold, whose excellencies were sung in every language by the scientific economists, was triumphantly entering among the nations of highest culture, of industrial aristocracy. And our peso which during several centuries had shared with the Austrian Maria Theresia thaler the commercial dominions



Durango.—Mercado's hill

of the extra-European world, was to beat the retreat, for while the latter was ruling at the Sunda islands, but chiefly on the African continent, the former, ours, unattackable, undisputable, unique, imposed with all its weight its silver standard in the English possessions of America, in the United States, in the Spanish Antilles, in the Philippine islands, in Mexico and in China, in Indo-China and in Japan. What a brilliant and suggestive retreat! Step by step its just fame has been defending its spheres of legitimate influence and when yielding to the most enormous pressure of the complex economical circumstances, it has prevented itself, and quite justly, from falling into oblivion.

And there it still is, that silver dollar which in its task to facilitate the mercantile relations between occidental civilisation and the large empires of the Asiatic extreme followed the steps of Vasco da Gama and Magellan in search of the countries of the rising sun; which, to intertwine the links of commerce, was the precursor of the Suez canal, already concluded, of the inter-oceanic railway of Tehuantepec about to be used and of the projected canals of Nicaragua and Panamá.

The white metal, it is true, is no longer commanding among the powerful nations, but it is now acting the honourable role of a missionary of material progress and it is aiding the different nations of the earth by a thousand divers efficacious ways to conquer their longed for economical independency.

Mexico where it is produced is one of the most eloquent examples of so varied and transcendental influence in the interior of the country; and abroad, experience has luckily demonstrated that our dollar cannot possibly be banished from its legendary markets of Asia. What will be the fate future is reserving for the silver of our mines?

Does not Suess, the eminent Austrian geologist and economist, forebode for a more or less near future the exhaustion of the known auriferous deposits and the definitive and triumphant resurrection of silver as an index of the values on the international market?

Who may know! As yet it is a scientific fact that gold deposits are rather superficial, but it is likewise an economical fact that, with the note-issuing banks and clearing houses and with the cheques, modern civilisation is from day to day less in need of metallic signs of credit. Who knows! Time will destroy doubt.

But meanwhile, how eloquent a lesson that of our mines, producing without loss silver at these very moments, come of its depreciation, when many mines in the United States of North-America have been obliged to stop work!

In the year 1900 our silver production was nearly double the total sum of the productions of Canadá, the five Republics of Central America, and of Ecuador, Argentina, Colombia, Chile, Peru and Bolivia in South-America.

It was more than the double of the produce of whole Europe and more than thrice the quantity of white metal extracted from all the mines together of Asia and the Australian continent.

And if for the same argentiferous ores in the year 1900 we consult the last statements of the two countries and compare the produce corresponding to every inhabitant, we find that of Mexico five times superior to that of the great Anglo-Saxon Republic.

Lastly, according to the conscientious statements of the last annual report of the Director of the United States' Mints which have also served as base for the anterior estimate of the total silver production of the whole world, the result of the Mexican mines in the last year of the XIX century figures with more than thirty one per cent.

At the face of this most eloquent success and the former not less beautiful results of our national mining, at the vertex of the furious tempest of the descent of prices of its main product, does it not appear evident that this industry, Mexican by excellence, is not inferior to that of any other people on the earth, of the same or a distinct race?

And will not our thinking people become convinced at length that Mexico possesses all the necessary conditions appropriate for the quick and brilliant development of the mining and metallurgic industry?

Ought it not to be considered as an elemental notion that for mining there is spirit of association in

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MINING

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**Engineer Emmanuel Fernandez Leal**

MINISTER OF ENCOURAGEMENT









our country; that for mining it is easy to gather sufficient capitals in little time; that for this business one may reckon on the engineers as directors of acknowledged competence; with an economical and honest administration and with a distinguished and special personnel of hands bred *ad hoc* by an education of more than three centuries standing?

Now, with that considerable advantage of having infused new life into that transcendental idea already making its way among reflecting people, the metallic depreciation of our peso brought joined some others of no less importance. Every body's attention became fixed on the convenience or rather necessity of removing the legislative and fiscal hindrances which encumbered so much the way of progress for the Mexican mining industry and people began to study the benefits that would result from conserving the silver of our mines, in the interior of our own country to the fomentation of all the other products of mining itself, of the remaining manifestations of industry and agriculture apt to be exported with increasing success. Hence the active exploration of our mountains in search of gold, copper, lead, quicksilver, antimony and tin, of marble and alabaster, of opals and coal and of petroleum.

From the same base the numerous manufactures are starting that with different aims are enlarging our industry and on the same ground our agriculturists lean to dedicate themselves more and more to the production of coffee and cocoa, of the best sort of caoutchouc and the textile fibres, of woods for cabinet making and dying, to the development of the manufacture of cane sugar on our coasts, to the breeding of cattle and in general terms to obtain any exportable produce.

By such an indirect but efficacious manner, almost as much as by the direct and known way, our mining industry, which by dint of its special organisation is still able to continue producing the white metal in spite of its terrible and prolonged crisis, has been all the time, is still and will be on every day firmer ground, through the present variety of its production, the unshakeable prop of Mexican prosperity.

So it had become most urgent to facilitate its task by disencumbering its civilising road from legislative and fiscal obstacles and to collaborate with it in the resolute fomentation of all the remaining branches of national wealth.

That work having been prepared by distinguished forerunners, there luckily arose amidst us, at the side of the Citizen President and at the precise and opportune instant, the man capable of perceiving, with full clearness, from the beginning, so gigantic and complicated a problem: General Charles Pacheco, the heroic maimed of April 2 1867. Unfortunately he no longer exists; but his defects were buried with him while his ideas will for ever keep alive among us. In virtue of the latter and in spite of the former it may be assured «this man was not only a soldier of the van» as at the brim of his tomb one of our most sympathetic poets said full of emotion. He was a leader, and a great leader. During the ten years from 1881 to 1891, he remained at the head of the Ministry of Encouragement, seconding the patriotic aims of General Porphyrius Diaz and unwearily utilising his own and other people's initiative affectuously and sagaciously stimulating them, he touched everything, fecunding and aggrandising all.

It would be a difficult in more than one conception and, moreover, too long a task to make a study of that Minister of Fomentation's fecund and varied initiative. We must therefore confine ourselves to mining matters and state he founded, in 1882, a special section of mining and agriculture to get the national problems of these two interesting departments duly studied.

As for the former the main object of the studies was to be and, of course, actually was, in conformity with the state, circumstances and exigencies of the medium, to encourage the scientific exploration of the territory, chiefly in search of iron and coal, which together with sulphuric acid, are the nerve of nearly all the great industries; and above all other things, and even that exploration, to propose the possible and convenient reforms of the up to then special legislation of the miners' industry.

The explorations were made and continue being made; the engineers who effectuated them and are carrying them on, have followed the tracks of their foreunners, Del Rio, Humboldt and Burckardt; Saint-Clair Dupont and Castillo; Velazquez de Leon, Bárcena and Ramirez; Ramos, Cuatáparo and many others, not less distinguished men and the professors of the Practical School at Fresnillo.



With the informations they supplied a base was secured for determined studies and they contributed to the sooner creation of the present Geological Institute that is rendering so important services to mining, to industry in general and to agriculture.

Regarding legislative reforms the study of the Special Section met at once with a heavy stumbling-block, with an obstacle that must needs be removed: that of want of unity in the Republic's mining legislation, since the mining department depended on the Federal States.

And through this want, not only the liberal reforms that were meditated would have proved of little transcendency, but the consecutive variability in the dispositions of the different States of the Federation justified capital, with great prejudice for all, to be afraid of investing on a large scale in the working of our mines.

It was therefore indispensable and at the same time most urgent to reform in this point the Magna Charta of 1857. Such was the report, such the resolution of the minister, and that was the opinion, as it logically must be, of the Mexican Mining Society and of the large meetings convoked to that effect. So the initiative was approved by the collegislative Chambers of the country, thus actualising the constitutional possibility for the Mexican mines to be ruled by one sole law.

In view of the momentousness of the improvement obtained and in front of the resolute will of the Commission redacting the unique Code to preserve therein, as it was stated, the fundamental principles of the old Colonial Ordinance, they who possessed it, reserved for a more propitious occasion the ideal craved for the working of mines and for all kinds of work, the ideal of economical liberty.

On January 1<sup>st</sup> 1885 they promulgated and enacted the Mexican Republic's Mining Code keeping the principles of the «Mining Ordinances» of which at those moments an enthusiastic eulogium was made by the distinguished engineer and publicist James Ramirez in his interesting work: *La Riqueza minera de México* (Mexico's Mining Riches)

Referring to the old law he says: «We feel obliged to relate the history of its formation, promulgation and enactment in our country, the respect it deserves, the glory it reflects upon its enlightened authors, the services it has rendered, is rendering and will continue rendering our mining industry, the doctrine it contains, the teaching it spreads, the principles it includes, the justice it abounds in, and the role it acts as the centre of our mining legislation.»

There is no doubt it was of much usefulness in its time, but the modern economical ideas could no longer tolerate those principles rendering prosperity precarious through the constant threat of denunciation, the compulsory work and the prize for the intrusion into other people's grounds.

The Code raised on such foundations proved affected of organic waste, carrying therefore in itself the fatal sentence of an early death.

The moderns were not apt to understand it would be possible to realise with that Code the beautiful desire of all so nicely expressed in the mentioned work by writer Ramirez's easy pen.

«When Mining,—he says,—receiving the impulse it so urgently needs and which up to this days has scarcely begun to be communicated to the same, will extend over all the virgin produce on which it can exercise its vivifying and beneficent influence, Mexico, acquiring its industrial and commercial independence, will increase the production, diminish the cost, revivify the industries, multiply the fountains of work, raise the figures representing the value of wealth, and it will be great through the industry of the miners.»

At the same time the Code was promulgated, our national mining show, at the Universal Exhibition of New Orleans, called and attracted the intelligent and the capitalists by the variety, abundance and richness of its collections and justly attained great prizes.

It had obtained them already, and numerous, at the Philadelphia Exhibition in 1876; and still greater and more valuable ones it was to conquer afterwards at the Paris International Exhibition in 1889, at that of Chicago in 1893 and at the posterior ones of Atlanta and Omaha.

It reached its triumph at the brilliant competition, in the capital of the French Republic and it has

not failed to attract all the looks at the Panamerican Exhibition just closed in these days in Buffalo and which was to gain so sad a celebrity through the infamous assassination of the President of the United States.

The incentive of the simplicity engendered by the unique Law, and the security imposed by legislative bidding that all local and direct imposts on mining produce could not exceed 2 per 100, were the inducing cause of the expected afflux of new and abundant capitals destined to explore and work the riches of the Mexican subsoil; however, the depreciation of silver becoming more marked from year to year, foreign capital did not search for silver, it came to look for the other metals and then people practically touched what was foreseen: the impossibility for the Code's restrictive principles to coexist with the already then increasing economical advancement of the society of the Republic.

The modern enterprises, as was quite natural, were seeking large extents for the better organisation of their works, security of possession, adequate franchises, inviolability of the mining ground and before all and above all, liberty of work.

It was impossible to find in the old legislative tower those wide and beautiful windows which the new idea had endeavoured to open in order to let through the currents of liberty, they being the only ones to fertilise, vigourise and aggrandise all.

Thus, the persons concerned in the business were compelled to solicit and obtained certain special concessions which, approved by the legislative Chambers, rose to the category of laws.

Thus the idea fostered by some since a long time began to become popular in the country and through the four corners the good news got diffused that the mines could be opened and worked with good result at the impulse of liberal principles which by the mere fact of being so were much more than the Code's in good harmony with the special economical organisation



Durango.—View of «La Ojuela» mine and houses for the work people (Peñoles Mining Company)

of the great industries of the modern epoch. However, it is but just to state that in the Code of 1835, by the declaration that coal, petroleum, building stones, rock-salt, the placers of not precious metals and other useful substances belonged to the owner of the soil, the beginnings of a good foundation for industrial peace had been won concentrating in one sole person the two properties, that of the surface and that of the sub-soil. This part, luckily, is still in force.

About that time the fall of the silver began to be precipitous and when this phenomenon made its appearance with darker and darker shades at the economical horizon, Mexican society became deeply alarmed.

The matter having been maturely studied by Commissions named thereto by the Ministry of Encouragement and explained by the same to Congress, an initiative favourable for the progress of mining industry, a law called «of Zones» was promulgated on June 6<sup>th</sup> 1887.

«The economical principles enthroned therein,—it is said in a study about the legal petroleum exploitations among us, which has not yet circulated whereby nothing has been lost since it was written by the author of this incomplete report,—considerably deviated from those of the Mining Code which for reasons of prudence had been left in force.»

Of course, we here insert these fragments only in order not to repeat with different words identical ideas:

«In conformity with the old Ordinance the Code allowed a very small extent.»

«Comparatively large were the exploration zones, especially, and the number of mining lots granted according to the new Law.»

«Denunciation founded on a thousand motives was reigning in the Code.»

«It was banished from the concessions granted by the Law.»

«Property was essentially precarious in virtue of the Code's regulations.»

«The Law gave it greater stability declaring the respective contracts in force for ten years.»

«It unified throughout the country, therein following the Code, the mining imposts, reducing them also to the maximum of 2 per 100 on the raw produce and besides it granted some other facilities and exemptions.»

«It declared free of any federal contribution, except the stamp impost, the coal mines, the petroleum pits and the iron and quicksilver mines as well as the corresponding products.»

And it kept up the wholesome principle of the Code that coal, petroleum and other elements of the sub-soil enumerated in some of the anterior paragraphs, belonged to the owner of the ground and therefore stood under the common law.

Many of the numerous concessions made by the Ministry of Encouragement authorised thereto by the Law gave brilliant results for the progress of National Mining.

And all of them realised the most useful work of persuading even the most refractory people that mining conducted on liberal principles was easier and offered greater chances of success.

Even the oldest mining pursuits solicited, for one motive or another, the tutelar shelter of the then possible economical liberty that constituted the foundation of the Law of zones of 1887.

And together with this beneficial and eloquent circumstance there existed two other important ones: one a stimulating one: the depreciation of silver more and more increasing; the other, an obstacle, a heavy shackle, two legislative entities of antithetical principles, the Code and the new Law presiding over our mining industry's development. On the other hand, through the stimulus of the franchises and the exemptions of the law of 1887, there had been founded in a short time, in this country, some large metallurgical establishments of foundry whose capital came chiefly from the United States of the North, driven away by the vexations of that country's Tariff Law known under the name of Mac Kinley's or Windom's Law.

The prosperity of the large foundries had already given a good example and it was to be foreseen, as it really happened, that invoking special concessions analogous to those granted by the Law, similar, more or less powerful, offices would go on being established at different spots of the country stamping with amazing rapidity the seal of the great industry on our national metallurgy.

In view of all this, it was thought the opportune moment had arrived to derogate for ever the Code's restrictive system and to relegate to the archives of history the fatal principle of intrusion and the constant threat of denunciation.

And so it was done. Who presided over the study?

In 1891 general Pacheco had unfortunately disappeared, but the Ministry of Encouragement had continued being managed by his old and indefatigable collaborator, the distinguished engineer Emmanuel Fernandez Leal and on him the realisation of so important an improvement was incumbent.

At the Ministry of Encouragement a conscientious examination of the matter was made, its capital ideas being professed by some persons since many years ago and after several meetings with persons of acknowledged competency, the Bill was presented before the Union's Congress. Being approved by the Chambers with some slight modifications, the Law which now regulates Mexican mining was promulgated in the *Diario Oficial* on June 6<sup>th</sup> 1892.

When it made its appearance, it roused a tempest.

Some people, frightened, called the Minister a revolutionist, and others, among them many miners, attacked the law terribly, while a few, better acquainted with the matter, animated the Minister to hold out in the storm making sure of the definitive triumph of the liberal and scientific principles. By his resistance he rooted the law and then, a studious and old knower of his Department, he was able to consecrate himself to the examination of all the rest in order to push it on, following the tracks of memorable general Pacheco.

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Political history

CONCLUSION. — THE PRESENT ERA

**General Emmanuel Gonzalez Cosío**

HOME MINISTER









Let easy and elegant pens relate with clearness and serenity the fecund initiative or mature meditation and the ever watchful and patriotic work of those two men who during twenty years were the ministers of Encouragement, Colonisation and Industry.

What are the fundamental principles of the Mining law enacted on June 6<sup>th</sup> 1892?

The simple structure of the regulation which, in spite of the few years of its existence, its furious detractors of the first days, converted to-day perhaps, and may be without this doubt, into its most convinced and resolute partisans, have given already almost as much celebrity as the old ordinance in its time received from its uncountable adepts, is settled on but three cardinal principles which, whatever may be said, are among the best and which constituting a triangular base for that Law cannot but make it unshakeable, although, being a work of man, improvable. They give the miners, as it is just, facilities to acquire, security to keep, liberty to work.

What more may be requested? And now, what more might be wanted? It does not appear that the medium and the circumstances of the moment might give something better.

A slow, difficult and costly thing it was in former times to acquire a small mining concern; now the most extensive ground may be obtained with all sorts of guaranties and relative promptness, simplicity and economy; we cannot but state, however, the procedure may still be simplified by a well meditated decentralisation, established at the hour of opportunity.

The black obsession of the miners, cause of their constant uneasiness and of the fears of capital, has now disappeared for ever and remembrance hardly keeps a glimmer, in the dim remoteness of time, of the frightful spectre of the denunciations.

Enslaved and compulsory labour has been substituted by the principle of fecund freedom and if individual interest deems convenient to stop work, the country acquires the advantage of keeping, for a near future of greater advancement, abundant, well explored and well localised mineral deposits.

Regarding imposts they kept as a maximum the two per cent of the Code and the Zone law and in conformity with their liberal mind the fee now paid is to descend to a minimum, merely to correspond to the aims of statistics.

Are there no errors, defects and voids in the Mexican Mining Law? Of course, there are. Experience is pointing them out and opportunity must correct them and fill them up, without touching its triangular base.

But meanwhile the moment arrives to improve that Law, numbers can show with eloquence the evolution of the Mexican Mining laws in the last sixteen years of the XIX century has been a good one and deserves to be treated with respectfulness. The following figures are stated in the conscientious Reports corresponding to the years from 1892 to 1896 presented to the Congress of the Union by the distinguished engineer who promulgated the law now in force when Minister of Encouragement.

#### PRODUCTION OF SILVER

LAWS	LUSTRA	TOTAL PRODUCTION	YEARLY AVERAGE	DIFFERENCES
Legislation of the States. . .	1881-1885	\$ 157,827,478	\$ 31,565,495	
Code of January 10 <sup>th</sup> 1885 and				
Law of June 6 <sup>th</sup> 1887. . .	1886-1890	» 199,208,204	» 39,841,640	\$ 8,276,145
Law of consolidation of mining				
property of June 6 <sup>th</sup> 1892 (four				
years). . . . .	1892-1896	» 225,247,459	» 56,311,864	» 16,470,224

«It is not possible to present,—the Minister says in continuance stating a big truth,—a more eloquent proof of the influence of a liberal and reasonable legislation on the prosperity of an industry nor may we expect from the legislative and administrative intervention a more efficacious and more intensive



action in the sense of progress of public wealth.» And he is quite right in adding that «by summing with the production of silver that of gold, copper, lead, coal and other elements, we are able to form a just idea of the present importance of Mexican mining and infer therefrom the demonstration of the incalculable benefits of a Law that had, but now appears to have no longer, adversaries.»

Let us cast a final glance on the advancements lastly realised in the teaching of the specialist engineers and in the exploration of the territory, on the progress in mine working, on the increasing sum of its varied products and on the brilliant culmination of national metallurgy.

The former Mining College, now National School of Engineers, is the most important temple raised in our country to the beneficent worship of the positive sciences which are those that have allowed in the last century, are facilitating now and will accelerate in the future the perseverant and scientific study of the Mexican territory, in order to continue giving our progress the everlasting base of observation and experience.

To the artistic grandness of the building, a superb palace, wherein it is established, the excellencies of its teachings are quite corresponding. It and the National Preparatory School complete one another, interpenetrate one another, confound with one another and with their well meditated harmony, form as brilliant as potent, scientific and majestic a whole for the development of the solid and increasing reputation of Mexican Engineering. It was therefore but natural that its severe hall, formerly of acts, now of lectures and receptions, was destined for the sessions of the International American Congress of Mining Engineers held a few months ago.

Let us now see, with the rapidity imposed on us by the nature of the present work, what are in the exploration of our territory the most important studies realised in these last times by the National Geological Institute. As yet it counts but very few years of existence, however, the interesting and frequent explorations, the assiduous classifying work and the concurrence at the most important international Congresses of the mineralogical sciences and of the history of Earth, by its distinguished directive personnel, Engineers Aguilera and Ordoñez, have enlarged and rapidly strengthened this institution enviable ever since it is now beginning to develop itself. It will not be long in lodging its rich library and its important collections in a specially built edifice. There the former as well as the latter will offer better conditions to be consulted and it will be easier to examine the interesting «Boletines» it publishes and its ultimate works justly rewarded with prize, at the Universal Competition at Paris in 1900, to wit: The conscientious study of the mining districts of Real del Monte and Pachuca and above all, the geological out of transcendental usefulness, from Acapulco, on the Pacific coast, to our first port, that of Veracruz, on the Mexican Gulf.

To this Institution created by General Pacheco, so much fostered during the last years of the XIX century by Emmanuel Fernandez Leal with his unwearied endeavour and on which his clever successor and predilect friend, the present Minister, will certainly bestow his care, industry, mining and agriculture will soon be indebted for most important services. Mining, which formerly only minded silver, now, without renouncing its secular preference for the white metal, is likewise consecrated to the study and exploitation of the remaining elements of the sub-soil.

Gold has been collected in Mexico ever since the most remote times, at the placeres of the quaternary epoch which are to be found in the States of Guerrero, Oaxaca, Michoacan, Jalisco, Durango, Chihuahua, Sonora, Sinaloa, Tamaulipas, Zacatecas and the Territories of Tepic and Lower California. Now it is also extracted from auriferous quartz which forms concretioned veins in the hornblende andesites of the caenozoic times, at San José de Gracia, in Sinaloa and at the Mezquite del Oro, in Zacatecas and they win it, too, from the ore that is to be found in lodes in the andesitic diorites and granulites which are seen to cut the lime stones of the cretaceous epoch at San José del Oro, in Hidalgo and at San José in Tamaulipas. It shows itself united with silver, in ores of importance, in the calcareous slates of the upper part of the Jurassic period, at Tetela del Oro, in Puebla. And it must be recorded that one of the most important fountains of Mexican gold production is rooted in the known circumstance that more or less

high standards of the yellow metal enrich the immense majority of our silver ores. It is equally to be found in veinlets of quartz, in the fractures by contraction of the eruptive azoic rocks, in the States of Oaxaca and Guerrero. And if to these deposits, we join those of great interest which rightly call public attention in the State of Sonora and at Mineral del Oro, District of Ixtlahuaca, State of Mexico, we shall have an idea of what are the principal centres of our increasing gold production.

During the last nine years since the new Law is in force, that production has run the following course:

1892-1893	\$ 1,269,907	1893-1894	\$ 1,244,621	1894-1895	\$ 4,744,542	1895-1896	\$ 6,864,806
1896-1897	» 7,218,835	1897-1898	» 7,726,005	1898-1899	» 8,339,882	1899-1900	» 8,505,786
1900-1901 \$ 10,056,349, in gold.							

As for silver, it abounds in important lodes in nearly all our mining States, but specially in those of Hidalgo, Guanajuato and Zacatecas, Coahuila and San Luis Potosí; Durango, Chihuahua, Sonora and Sinaloa. Sometimes the silver ores present themselves filling the clefts of the triassic rocks cracked by the push of the igneous rocks of the tertiary period.

However it is the lodes of silver that have given our country so great a celebrity and many of which are characterised by their situation in layers near the surface and their decomposed and oxydised state, mingled with chlorides, bromides, iodides, whence the name of coloured ores, while at some depth the sulphides prevail (black ores); those lodes, we repeat, are to be found in the andesitic porphyrites, hornblendi andesites and other varieties of these eruptive rocks of the tertiary epoch.

The production of the principal types of our argentiferous deposits has been as follows during the nine last years elapsed since the Law of 1892 began to be in force:

1892-1893	\$ 47,840,713	1893-1894	\$ 58,219,043	1894-1895	\$ 58,204,035	1895-1896	\$ 61,990,125
1896-1897	» 63,339,850	1897-1898	» 68,227,715	1898-1899	» 72,541,683	1899-1900	» 72,115,508
1900-1901 \$ 74,245,907							

So that the increase of the silver production in the last quadrennial period compared with the first, 1892-1896, has been of 60,926,897 pesos.

*Copper.*—This metal exists in several States of the Republic in strata corresponding to different geological epochs; but the deposits of most importance, Inguaran and El Boleo, lie, the former in the State of Michoacan, in regular veins, amid hornblendi andesites of the beginning of the Pliocene and the latter in Lower California, among stratified deposits in the sedimentary rocks of the Upper Miocene.

Recently some deposits have been noted in Sonora, besides those already known at Zomelahuacan, in the neighbourhood of Teziutlan where soon an important foundery will be erected.

In the ten years from 1889-1890 to 1898-1899 the production passed from 4,300 to 16,000 metric tons and in the year 1899-1900 the copper exportation reached a value of very nigh 10,000,000 pesos in gold.

*Lead.*—The deposits worked at a certain scale lie at Sierra-Mojada, in the State of Coahuila, Mapimí in the State of Durango, Zimapán, State of Hidalgo, and Cerralvo in Nuevo Leon, forming veins and irregular deposits, amid calcareous rocks, as it seems, of the cretaceous epoch.

The production which in the year 1889-1890, was of 21,800 metric tons attained in 1898-1899 as much as 81,000 tons, of a value of more than 12,000,000 Mexican pesos.

Now they also extract from our subsoil quicksilver whose most interesting ores, livingstonite, cinabar, guadalcazarite, lie disseminate among cretaceous rocks, at Huitzuco, Guerrero, in San Luis Potosí and other States; antimony in Sonora, San Luis and Guerrero; tin is to be found especially in superficial deposits of the quaternary epoch in the States of Durango, Zacatecas, Guanajuato and San Luis Potosí.

The manganese ores pyrosulite, psilomelan and wad are found in Puebla and Lower California; white topaz in San Luis; garnets, in Morelos; marbles at Orizaba and several other localities; tecalis (calcareous alabasters) in Oaxaca, Puebla and Coahuila; asparagines, at Mercado hill in Durango; and precious opals at Zimapán, in Hidalgo, at Esperanza in Querétaro and at Maravatio in Michoacan.

As for iron, hematites are found in the mica-slates of the azoic strata in the State of Guerrero and accompanied with ochres and sphaerosiderites in the triassic rocks; but the magnetic sesquioxides and oxides, in mighty deposits, which are chiefly worked at «La Encarnación» near Zimapan in the State of Hidalgo, in Coahuila and other States, are to be found in the limestones of the middle or the under cretaceous strata.

Together with these deposits we must mention those situated, explored and more or less worked in the States of Oaxaca, Puebla, Mexico, Jalisco, Coahuila, Sinaloa and above all, the famous one of Mercado hill, in the State of Durango.

The ore worked at «La Encarnación» is of the richest and purest, yielding at an average 73 per 100 of iron. The yearly average produce of that foundry (Ferrería) alone which together with those of Guadalupe, in the same district, of San Miguel at Zacualtipan, of Apulco, La Trinidad and Los Reyes, at Tulancingo, all of them in the State of Hidalgo, and that of Comanja, in Jalisco, constitute the «Iron manufacturing Concern» of Richard Honey, amounts to 1,400,000 kilograms of pig-iron wrought into bars.

Recently a powerful and enthusiastic company has been constituted with a capital of 10,000,000 pesos purposing to work the Coahuila iron and to make steel.

Coal of good quality and in layers of serious importance exists in the last strata of the cretaceous formation, as at Sabinas, Hondo, San Felipe and Santa Rosa, in the State of Coahuila.

The approximate production in the year 1900 was estimated at one million tons which at the rate of \$ 4.50 a ton in the pits, gives a value of \$ 4,500,000. The analyse of these coals has demonstrated their density to be 1.37; their humidity 0.6 per 100; volatile matters 18 per 100; ashes 7.5; fixed carbon 73.9 per 100, and the number of theoretical calories 7,272.

The anthracites of San Marcial, in the State of Sonora, are of excellent quality containing from 84 to 91 per 100 of fixed carbon and it is to be supposed they will soon become actively worked.

Petroleum which by its increasing importance as an industrial fuel is in fashion everywhere and very rightly so among ourselves, not yet counting very numerous coal deposits, exists at various spots of the country, but especially in the States of Tabasco, Veracruz and Tamaulipas.

There is ground to presume the interesting petroleum region lastly discovered in the State of Texas, of our Northern neighbour nation, is extending over our territory and the franchises our Government purposes to bestow or is already granting for the exploration of the marshes, swamps and lands of national property will produce the desired success and both circumstances will contribute to allow us very soon to figure as important producers of mineral oils whereof in the quinquennial period of 1894-1898 the United States of North-America and Russia attained the colossal production of 66 millions of metric tons, 39 corresponding to the former and 27 to the latter.

**Last advancements in the exploitation of mines.**—With the unceasing progress of the sciences that serve the powerful industry for a base, with the recent triumphs of physics in general and electricity in particular, of geology, building mechanics, topography, engine mechanics and political economy, together with the facilities of communication and transport, a great development has been attained that in the future will increase with still greater swiftness. Thus frequently, explorations at great depths are made by means of diamond borers and in the execution of the works in general everywhere the most powerful modern explosives and boring engines are used, bought in the United States, in Belgium or in Germany, driven by electricity or compressed air.

The most perfect apparatuses for the extraction of the ores, as for instance at Santa Anna mine in San Luis Potosí, are set in movement by electrical force which also supplies many mines with exterior and subterranean lighting. Electricity likewise moves most powerful draining engines, as in the mines of the Company San Rafael and Anexas, in the Mining District of Pachuca.

In other cases like that of the draft or shaft «Carmen» of the Concern «Maravillas y anexas» at Pachuca, the large pumps for drainage are of the Cornish system and in some, like at «Cerro Colorado»

and «Potrero» in Chihuahua, the excellent Corliss motors there used, have been constructed in the same State by the Industrial Company.

Among the large tunnels to facilitate ventilation, drainage, exploitation and transport reaching sometimes great depths when cutting the lodes, we must mention the one called «Porfirio Diaz,» at Batopilas in the State of Chihuahua, which starting from «San Antonio» in 1884 in direction towards the mine «Descubridora» at a distance of 10,500 meters, more than three thousand of which are already completed, cutting several important lodes of Batopilas while in its further course it will cut the famous mother lode «Roncesvalles» at 411 meters below the level it is loing worked at present. That of «San Cayetano de las Ovejas» and that of «Sirena,» in Guanajuato; that of «Purísima,» in Zacatecas; those of «Concepcion» and «Refugio,» at Catorce, in San Luis Potosí; and the «Nepton» tending to communicate the mining district «El Chico» with that of «Pachuca» are other tunnels of the most important ones and we do not mind here those of «Girault,» «Rosario,» «Prosperidad» and «Aviadero,» because we cannot omit speaking of them when we shall dedicate some brief special lines to our oldest silver producing mining company, that of Real del Monte and Pachuca.

For the transport of the ores from the mines to the metallurgic establishments or to the next railway station in order to be carried to the large foundries, they use every where with good success the air tramways by means of wire cables, of the Hallidie system, of San Francisco de California. They are employed at present, and their use is spreading more and more, at the mines «San Pedro» and «Azteca,» near Monterrey, State of Nuevo Leon; by the companies of «San Andrés de la Sierra» and «Candelaria,» in Durango, «Cerro Colorado» in Chihuahua, and «San Juan» at the Bahía de los Angeles in the Territory of Lower California.

Other enterprises, like that of Peñoles employ Abt railways from the mines to the foot of the mountain and in order to set in communication two mining camps separated by steep and enormous abyss, a suspension bridge, of a horizontal distance of more than 350 meters between the two towers, the length of the bridge itself being 315 meters with the appropriate width, a suspended weight of more than 112 tons and with the fit security factor, a capacity of 18 tons.

As for mining railways there are important ones. The Peñoles itself possesses a branch of more than thirty kilometers, from Bermejillo station of the Central Railway to Mapimi, in the State of Durango, and from that locality to the foot of the mountain. The Northern Railway joins, in the State of Coahuila, the Sierra-Mojada mines with the halting-place «El Escalon» and in the same State «El Hondo» serves the «Carboniferous Company,» while that of «Concepcion del Oro» unites the mines of that name with the town of Saltillo, capital of the State of Coahuila.

In the State of Nuevo Leon the railroad «Carmen» of the Guadalupe Mining Company has realised the approximation, in spite of a distance of 23 kilometers, of the mines «San Pedro,» «San Pablo» and «Zaragoza.» In the State of San Luis Potosí the works of a subterraneous railroad were begun in 1896, and are still continuing, destined to cross the mountain range and connect the mining district of Catorce with the highroad to Matehuala. In the State of Sonora a railway branch is in active construction from Torres station to the interesting region of Minas-Prietas, and in the State of Chihuahua the Santa Eulalia railroad sets the mines of that name in communication with the Chihuahua Mining Company's metallurgic establishment. In the same State at Jimenez station, of the Central Railway, a branch of 104 kilometers establishes the connexion with the important and now famous mining district of Hidalgo del Parral. And in another railway, from Ciudad-Juarez to Casas-Grandes, in Chihuahua, nearly all the share-holders of the Corralitos mines are interested.

If to these news we aggregate the mention of the Guanaceví railroad, in the State of Durango and of that which in the State of Mexico unites the District «El Oro» with Tultenango station, of the National Railway, nearly all the most important of this matter will have been said, since we have no room to speak of the river steamers of other enterprises like the «Minera limitada de Chiapas» or of highroads constructed by all our mine working companies. Stating, besides, that our serious enterprises develop



investigation and exploitation plans well studied beforehand, that they thoroughly know the structure and composition of the deposits and that in many cases like that of «Promontorio» mine, at Durango, they are quite aware that the explored mass of ore is sufficient for half a century's exploitation, we think the reader's mind has become well impressed with the idea that a great future is reserved for our mining industry.

The want of space forbids us to relate how the lofty summits of high industry have already been reached, at least in its main lines, by many of our mining concerns like that of coal in Coahuila, of «El Oro» in the State of Mexico, of iron at Zimapan, Tulancingo and Zacualtipan, of lead at Sierra Mojada, of argentiferous lead at Mapimi, and several of silver at Pachuca, Guanajuato and Zacatecas, as well



General Charles Pacheco

as in the States of Durango, Chihuahua, Sonora and Sinaloa. We must be contented with mentioning the more interesting statements of an enterprise born a few years ago, giving life to the Zone law of 1887 through the practical demonstration of the goodness of its liberal principles, and of the oldest company existing in our country, that of the Real del Monte and Pachuca mines.

The former, called «Boleo» and French Company, works the copper mines at Santa Rosalía, in the Territory of Lower California, where, formerly a desert, there is now a settlement counting on June 30<sup>th</sup> 1899 a population of 5,423 inhabitants, divided into four groups: «Santa Rosalía,» «Providencia,» «Purgatorio» and «Soledad,» with houses built by the Company that has also endowed each group with boys' and girls' schools where, in the year 1898-1899, there concurred a total number of 545 pupils.

Mines, streets and squares, offices, workshops, foundries and dwelling houses are lighted by electricity and several railway branches set the mines in com-

munication with the manufactures and the port of Santa Rosalía. During the year 1898-1899 the goods-trains carried 364,683 metric tons.

In the port the Company has effectuated works of some importance, the necessary buildings for public offices and her own, as also a jetty of convenient extent. The total movement of the said port was of 73,768 tons of importation, merchandise and fuel, and of 14,247 of exportation, matt and black copper, bound for Europe.

The ventilation of the mines is done by means of powerful ventilators «Ser» moved by electrical motors, as also the extraction is realised by electric engines «Oerlikon.»

The driving of the galleries by means of modern explosives, methods and apparatus was at the three groups «Providencia,» «Purgatorio» and «Soledad» during the said year of 26,351 meters and of stripped surface, 87,978 meters. The output of copper ore during that year was of 216,600 metric tons with a metal standard varying between 3.5 and 11 per 100 in the different mines.

The number of shifts at the mines was 411.552 and the payment therefor \$ 642.457, so that the miners's average day's wages amounted to \$ 1.52.

At the foundry, besides the furnace instated on June 30<sup>th</sup> 1898, they constructed, to replace the old ones, two furnaces of 140 tons in 24 hours and two provisory ones of 90 tons a day and a special one of 160 tons that was constructing in that year 1898-1899 to which all our statements are relating, must now be in full work. During the said year 213.173 tons of ore were melted, with a consumption of 34.000 tons of coke and a yield of 10.240 tons of pure copper. In the ten years 1890-1899 the output of this metal, being 3.500 tons in the first, rose to 68.793 tons and the Company's profit in the one year ending June 30<sup>th</sup> 1898 amounted to 3.441.292 francs.

As for the old Mexican Mining Company, of Real del Monte and Pachuca, a few statements will be sufficient to demonstrate the importance of that enterprise which disposes of the necessary big capitals and whose mines, smelting works and work shops, have served as a practical school by excellence to several generations of our specialist engineers and which during many years, nay, lustra up to this day, has been as scientifically and skilfully directed as honestly and economically managed.

Regarding this Concern which, working a great number of mines as it always ought to be done in order to compensate the results of one by those of the others, in its endeavours of research and utilisation, carries out scientific projects well meditated and seriously discussed before being approved, the present writer, in 1886, exposed to the consideration of the Chamber of Deputies and in the debate about the Law of June 6<sup>th</sup> 1887, the following statements corresponding to the decennial period 1876-1885:

Loads of ore, of 12 arrobas (3 cwt), worked in that period, 2.368.273.	
Total value of the products, from 1876 to 1885.	\$ 20.786.603
Total amount of expenses, in the same period.	» 18.797.083
Utility obtained during those ten years.	\$ 1.989.520

And further on, in another paragraph of the same speech, the following statements were made regarding the losses suffered in the mines, through unconceivable errors of management, by the English Company, antecessor of the Mexican undertaking:

«Those mines have been exploited by the Mexican Supplying Society from 1847 up to this date (1886). The fluctuations in the produce may be estimated as follows: maximum of production in 1880, \$ 2.310.637; average production of the whole period, \$ 2.078.660, so that the maximum increase fluctuation was \$ 231.977 equivalent to 11 per 100; and for the same average of \$ 2.078.660 compared with the minimum of produce, in 1876, of \$ 1.844.472, there results a maximum of decrease fluctuation of \$ 234.188, equivalent to 11  $\frac{1}{2}$  per 100. A greater regularity of production is not obtained in any other human industry.»

How important for the future of our country and our mining industry it is, therefore, that the companies disposing of large capitals may be able to work not one or two, but a group of mines!

Since then to the present moment, luckily, the liberal laws and with them the Pachuca and Real del Monte Company have made a pretty progress. Already at those days it disposed, as it is disposing now, of good engineers, a clever administration, excellent roads, magnificent tunnels or saps, like those of Rosario, with a length of more than 1.200 meters, of Prosperidad, of more than 900; and especially, the famous one of the Aviadero, at Real del Monte, thanks to which the powerful unwatering pumps have to lift the water only to the level of the tunnel and not to the surface. That important tunnel is most justly considered a glorious monument of the grand conceptions of the famous miners of the last times of the colonial epoch, who traced and in great part made it, thus raising mining to so high a level, Bustamante and the count of Regla. The Company also disposed, since twenty or more years, of as intelligent as laborious a workmen's staff whom it always contrived to stimulate giving them the work in all convenient cases not for wages but by the job; and their workshops and storehouses, well furnished and organised, the modern explosives, the steel tools, mechanical boring, whenever opportune, the interior railways for transport in horizontal adits and the steam engines for the drawing out through inclined and vertical shafts, have allowed this Company always to serve as a model.

And in the same sense, not less has been the importance of the large draining engines of the Cornwall system; of the topographical plans, both of the exterior and of the underground works, scrupulously traced and always kept to date; of the apparatuses pretty well understood, for mechanical preparation and crushing of the ores; and finally of the remarkable working farms, of amalgamation by patio and barrel process, both of Freiberg and of Krönke.

In 1890 they established and set to work a powerful draining engine of the Wolf system of double effect, with Rittinger pumps and hydraulic counterpoises, being one of the most perfect that have been constructed in Germany. The cost of the engine was 500,000 pesos; its power is 900 steam horses and by every full revolution it lifts 1,400 litres of water to a height of more than 180 meters depositing the same in the tunnel of the Aviadero.

Recently, at some of the Company's mines underground pumps have been established, driven by electro-motors of triphasic current which they receive at a tension varying, according to the case, from one hundred to one thousand volts.

In May 1898 the works began for the Girault tunnel destined to be most useful for the drainage of the Northern region of Pachuca, and which starting from «Loreto» mine will end at «Camelia» mine, on the Vizcaina Lode.

At present, 50 per 100 of the Concern's ores are worked by amalgamation in patio-process; 15 per 100 by amalgamation in barrels and in the raw state, after the «Krönke» system; 15 per 100 by amalgamation in raw and in pans; 5 per 100 in barrels, with previous chlorinating reverberation, Freiberg system, and the remaining 15 per 100, by fire, at the large foundry at Aguascalientes.

Lastly, in the quadriennial period 1892-1896, the rough produce of the Pachuca and Real del Monte Company were the following: \$ 2,884,981, \$ 3,072,485, \$ 3,727,738 and \$ 3,260,300. The great inundation in 1896 somewhat paralysed the works; but that grave difficulty once overcome, that important production has continued increasing.

The yearly average of the said ten years 1876-1885 was \$ 2,078,660 whereas that of 1892-1896 amounted to \$ 3,236,376, thus showing a remarkable advance.

**Progress in national metallurgy.**—Nearly all the smelting works existing in the Republic dispose of adequate apparatus, although of different systems, for the mechanical preparation and the concentration of the ores.

We must mention, however, as complete plants and acknowledged by science as the best, that of Vallecillo mining Company, in the State of Nuevo Leon, where with the most improved German apparatus they mechanically dress as well silver as lead and zinc ores; that of the San Rafael Concern, at Pachuca, which disposes of the newest German engines; that of Hidalgo and anexas, at the Rosario, State of Sinaloa; that of the «Dura» mine, at Hermosillo, Sonora; that of Patrocinio, in Durango; that of Ciudad-Juarez, in Chihuahua; that of the Copper Company, in Coahuila, and that of Pichucalco, of the Chiapas State Mining Company.

As for the metallurgic processes in use, it is to be stated that the patio-process which if it was not the unique one, must be considered as the most important during the colonial and Independent epochs, is now accompanied by that of direct amalgamation either in arrastras and other crushing apparatus or in copper plates; by that of barrels after the systems of Freiberg, Krönke and the Mexican professor Joseph Maria César and by that of pans, both the common one and Boss's continuous one.

They likewise use the lixiviation method, both the common one and Russell's; Plattner's chlorination method; Mac Arthur Forrest's cyanidation method; the calcination system chiefly used for quicksilver ores and above all the melting method at a large scale that is rapidly becoming general acquiring greater and more extensive preponderance from day to day.

**Amalgamation by the patio-process.**—This is still used at the «Parisima Grande» works at Pachuca where it was invented, in 1557, by Bartholomew de Medina and neither at this farm nor at those of

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MINING

Mexico—General view of the mine Gold

(PHOTOGRAPH BY W. 17)









Loreto, Purísima Chica, La Luz, El Refugio and others of Pachuca, nor at the innumerable ones of the different mining districts of the country employing this process, modifications of actual importance have ever been introduced up to this day, all consisting in the substitution of the old magistral (roasted chalcopryite) by sulphate of copper, the assaying of amalgams of silver and greater care and watchfulness in all the operations thus obtaining lesser losses and greater economies.

The most important metallurgic works using the patio-process are those of Guadalupe, at Pachuca, which employing electricity as motor force work 415 tons of ore a week, the cakes resulting in the patios representing a value of 250,000 Mexican pesos.

*Barrel system.*—Several of the works of the Pachuca and Real del Monte Company, as has been stated, employ this system in its two main varieties: «La Unión» at Pachuca, that possesses nine Chilean mills and fourteen barrels, uses the Krönke method, while «Bartolomé de Medina» also at Pachuca, employs the process invented by our distinguished chemist, engineer Joseph Maria César.

*Pans.*—The common amalgamation in pans is used at «Santa Eduvigis» and other works of the Jesus Maria district, in Chihuahua; at those of the Guanacevi Mineral Restoring Company, in Durango; at «Santa Rosa» of Copala, Sinaloa and those of «La Yesca» Company in Tepic Territory.

The continuousness of work in this system contrived by Boss and employed by himself for the first time at the «San Francisco» concern of Pachuca and which produces a greater yield with less consumption of force, quicksilver, fuel and time, tends to become general being already used in Hidalgo, Guanajuato, Sonora, Zacatecas, Chihuahua, Durango and Guerrero.

*Lixiviation.*—This process, both in its common form and in that modified by Russell, is pretty general in the Republic and may thus be successfully studied at many concerns of Hidalgo del Parral, in Chihuahua, at Guanacevi in Durango, Taviches in Oaxaca, Yedras in Sinaloa, «Cintrero» Company in Sonora, and Sombrerete in Zacatecas.

*Cyanidation.*—According to the studies of the powerful Company in possession of the «Mac Arthur Forrest» patent for the treatment of gold ores by means of the potassium cyanide and which is making general the use of its system throughout the country, of the 27 States that form the Republic, in 24 there are precious metals and in 14 gold ores exist, there being in one sole State 17 localities where its special process may yield most brilliant results. The most important works using this system are those of «Las Prietas» in Sonora.

*Calcination.*—After several trials with different furnaces that gave more or less gross losses in the treatment of the quicksilver ores at Huitzuco, Guerrero, they now dispose of the «Gambetta» furnace of 58 tons charge a week and a loss of only 25 per 100, and better still, of the newest «Progress» able to work 400 tons a week in its 26 condensation chambers, the loss of quicksilver amounting only to 15 per 100.

*Melting.*—This is the characteristic system of the present epoch, in the evolution of Mexican metallurgy. It tends to predominate and in a short time it will prevail in all the districts of importance.

We possess already important foundries for the working of silver, copper, lead and iron ores in Lower California, Sonora, Sinaloa, Chihuahua, Durango, Jalisco, Michoacan, Hidalgo, Mexico and Tamaulipas, and at present one is being constructed at Zomelahuacan, in the State of Veracruz. And there are great foundries deserving the name of model establishments at Monterrey, San Luis Potosí and Aguascalientes.

A few words about this last which is the most recent and most powerful, will not only serve to convey an idea of its importance, but also will permit us duly to close this section about Mexican metallurgy. Large capitals; scientific direction; prudent management; well remunerated and accomplished workmen's staff; first rate central situation; well organised store houses, workshops and service railways; easy connection, by a branch of the Central Railway, with all the country's great railroad arteries; well provided departments for cobling, testing, concentrating and roasting of the ores, furnished with the best apparatus, driven by steam and electricity, chiefly the latter, and orderly managed. Such is this brilliant nucleus.



For the melting of plumbiferous ores there are three high furnaces, of 125 tons a day each and four others of 100 tons every one to work in 24 hours.

As auxiliaries they use iron won at Cerro de Mercado, Durango, and limestone dug at quarries situated between San Luis Potosí and Aguascalientes. For the melting of copper ores they use three furnaces of 160 tons a day each and another, of 200 tons work a day, will be ready for work at present. Two converters of the Bessemer system, moved by hydraulic force produce every 3-6 hours two hundred bars of copper, of 100 kilograms each and of 99 per 100 standard all of them.

The production of this interesting concern, of actual wholesale industry, and which represents the culmination point of our national metallurgy's evolution up to this date, was, in the year 1899-1900, of 8,497,987 kg. of rich lead containing 78,495 kg. of silver and representing a value of \$ 3,211,622, and of 7,216,596 kg. of rich copper containing 99,558 kg. of silver and being worth \$ 4,074,617 Mexican money.

*Coining.*—An interesting pamphlet has just come out, descriptive of the Mexico Mint, wherein it is



Durango.—Smelting furnaces at Peñoles

said that, the lease having been rescinded at the end of 1892, since 1893 coinage is done for its own account by Government having introduced great improvement into all the departments, such as: assaying laboratory, engraving office, workshops for carpenters, smiths, plumbers and potters; store houses, manufacture of sulphuric acid, crystallisation of sulphate of copper, smelting of this metal, smelting of the precious metals, separation of silver and gold, coining shops and manager's general office.

It is also stated that during these last years, several of the Mints that

formerly existed in the States, have been suppressed, as useless in view of the present facilities of railway communications, and substituted by assaying offices; only those at Zacatecas and Culiacan remain open for coining besides the Mexico Mint which, having been the only one during the colonial period, alway was the most important and is still prevailing among the three subsisting. At the beginning of the xx century, its production of copper, silver and gold coins, since it was established up to June 30<sup>th</sup> 1901, has reached the majestic figure of 2,507,952,875 Mexican pesos.

By all we have stated it becomes apparent that in the last quarter of century we have had a most interesting and at the same time as intensive as busy a bibliographical, scientific, statistical and economical movement relationed with the national mining industry and metallurgy.

It being impossible for us to notice here all those works, we are glad to state the reader may successfully consult the as full as trustworthy «Bibliografía minera» published a few months ago by studious Raphael Aguilera, Secretary to our scientific society: «Antonio Alzate.»

I feel obliged, however, to give my best thanks by means of these lines, for the interesting informations they have been so kind as to favour me with, to Mr. Trinity García and to the engineers James Ramírez, Joachim Ramos, Joseph G. Aguilera and Ezechiél Ordoñez, Charles F. Landero, Charles Sellerier, John Fleury, Peter Espejo, Albert Hoppenstedt whose death I am sorry to learn just now; Augustin Aragon, Edward Martínez Baca, head of the Mine section in the Ministry of Encouragement; Emmanuel Fernández Leal, director of the Mints, and Leander Fernández, Minister of Encouragement. And now I enter at last into the only section of this incorrect and confuse work that may claim some merit, that of its longed for conclusion.

What did our miners produce in the colonial epoch?

Precious metals, above all. In round figures according to the shortest estimation. \$ 2,100,000,000

To what have they attained in the eighty years of independant life? . . . To » 1,550,000,000

And what has been the result of their exertion in the last twenty five years of peace and work, of those sixteen lustra of independence? . . . » 1,150,000,000

What will be, therefore, most probably, the value of the present to be offered the Republic in 1921, her first centenary, prepared with the whole production of the subsoil during the twenty years yet to elapse till then? . . . » 3,000,000,000

That and much more our miners will do, since the temperature of the Mexican mining's furnace, slowly heated by the toil and science of so many years, has reached dazzling white and will be all fecundated by a continuous, powerful and increasing stream from our subsoil's inexhaustible riches destined mainly to lift our Republic's material prosperity to a lofty height.

## CONCLUSION

With the ideas and figures just stated, we have initiated the termination of this as imperfect as troublesome survey of the Mexican mining industry.

Imperfect through the author's want of competency for such a synthesis; and troublesome because it has been necessary to sketch in a few pages, and for the same reason, badly, a subject of so important a nature that it ought to have been explained in three volumes: one treating of mining legislation, another of mining work and a third of metallurgic industry.

There is no doubt the composition of so necessary and meritorious a work must soon be undertaken by some loftier intelligence endowed with more knowledge and a skilled penmanship.

Meanwhile let us conclude what we have begun.

Although in those remote times industry began with the obsidian mirrors, bronze axes, tecali (alabaster) sacred vessels and gold coits of the Aztecs, it was to arrive, after three hundred years of vigorous exertions, at those two thousand millions of silver, at the end of the Spanish colony.

At the beginning of last century the white figure of blessed Hidalgo, followed in first line by the population of the mines of Guanajuato, settled on the subsoil of New Spain, an if not exclusively, certainly essentially mining country, the everlasting foundation of the beloved nationality.

Among those hewers that accompanied him and loved him so very much, although many of them were anemic by the compulsory and scantily retributed work, there were some, like the «Pipila» who marched at their head, showing the first lineaments of the character brought forth in men by the incessant and dangerous struggle with the forces of nature.

Those who persisted have inherited and polished that character.

In the cruel epochs of the storm of uncompromising fight, patriotism taught us, during more than half a century, the virtue of perseverance in the conquest of the great principles and above all in the wars, which are the just ones and the holy ones, of defence of the territory against the invasion and domination of foreigners.

Thus the qualities of the national soul became somewhat vigorised and the colossus of the Mexican character, C. Benedict Juarez, oriented since his youth by the contemplation of the suggestive educating spectacle of the incessant struggling of the Oaxaca miners, made then shine before our eyes, no longer with the light of a beacon, but with the brightness of the polar star, his famous sentence: «Respect for other people's right is peace.»

Another man who also spent many years of his life among the miners, the famous Guanajuatans, the philosopher Barrera, thirty three years ago, placed the unity of scientific instruction, upon the unshakeable base of the Mexican youth's criterion: «Order, observation, experience.»

The last twenty five years have shown us that quiet ingenious laboriousness is the base by excellence, the only firm one, whereon material progress may be founded which allows us to keep our will directed towards economical independence and liberty.

And the personality who with his educational maxim: «work regenerates individuals, peoples and all mankind,» has been pushing us on and guiding us during this epoch, C. General Porphyrius Diaz, was born, grew and lived for many years amid the miners of Oaxaca. Of him the foreign delegates to the Pan-American Congress meeting in the capital of our country, when passing our frontier, have been able to say «the advancement he symbolises is not only a motive of satisfaction for the Mexicans but of great complacency for all the Ibero-Americans.»

In the eighty years of our independent life, fifty five of struggle and twenty five of peace the production of our mines has been of more than 75 per 100 of the great total reached by the Spanish colony at the end of three centuries, thus demonstrating once more how beneficial the political independency of the peoples is for economical progress; and of the quantity produced in the sixteen lustra of emancipation, nearly 80 per 100 have been obtained in the last twenty years of peace, liberty, security and science.

Thus, independent exertion has been nearly thrice superior to the colonial one, while a more than three times greater vigour than the former has been displayed by the quiet work of the sciences in this epoch which is so quickly pushing us towards economical emancipation.

Rich by this treasure of knowledge and thinking with St. Augustine that «nothing is so toilsome as not to toil» we must continue obtaining by the arts of peace, as we have already obtained in a quarter of a century to keep the great combat for the Republic's material prosperity always alive, unwearied and vigorous.

Progress must be and, therefore, will be. For as we have learned to utilise the declivities of water in order to carry electric power to the most distant confines for the service of the fecundant work of hand and brain, which, as Smiles says, has been, is and will continue being the main factor of the world's science, advancement and civilisation, in the same way we shall be obliged to cast into the atavic folds of the sciences fallen asleep and into the darkest spots of the uneducated intelligences, through the neat and clear prism of discussion, the attractive light of truth, both scientific and moral.

And if in all the past times work never ceased to be done more or less, there, in the depths of the adits in the subsoil, far from the green and placid fields, far from the sight of the blue sky, far from the vivifying warmth of the sun, there is more reason to do work now when the pale and illfed miner of the primitive times has been succeeded, by slow and persistent selection, by the present type of the Mexican hewer, intelligent and active, undertaking and sociable, bold and generous.

Lighted at his labour in the depth by the focuses of electrical fluid; having his engines driven by compressed air, steam or the motor force of the new century, his working room being sanitated by liquid air or any other scientific industrial method, the heroic Mexican miner not only needs not get tired but laughing at the anxieties and hopes of hap hazard, no longer listens to the old and discredited song of the bonanza. Attentive only to the indications of science he will struggle with unshakeable constancy to conquer or to associate with, nature and to get the solid and brilliant characters of the great industries to stand out more and more in his mining and metallurgic works.

And every one of us will occupy his post in the differentiation of aptitudes and division of work, endeavoring to obtain, in any order of human work, the special product, well determined, lovingly concluded and therefore less imperfect.

Thus and with the increasing elevation of our financial credit abroad clearly shown by the conversion of the Mexican debt realised in Europe in July 1899, we shall be able to celebrate with satisfaction, in 1910, the glorious centenary of the independence shout launched at Dolores and when, in 1921, the

first century of our emancipation will end, the men of the mines, supposing there will be no increase of the yearly amount of the produce of the subsoil over the quantity attained in these last times, will arrive as the result of their exertions in the first four lustra of the current century, at the colossal number of three thousand million Mexican pesos.

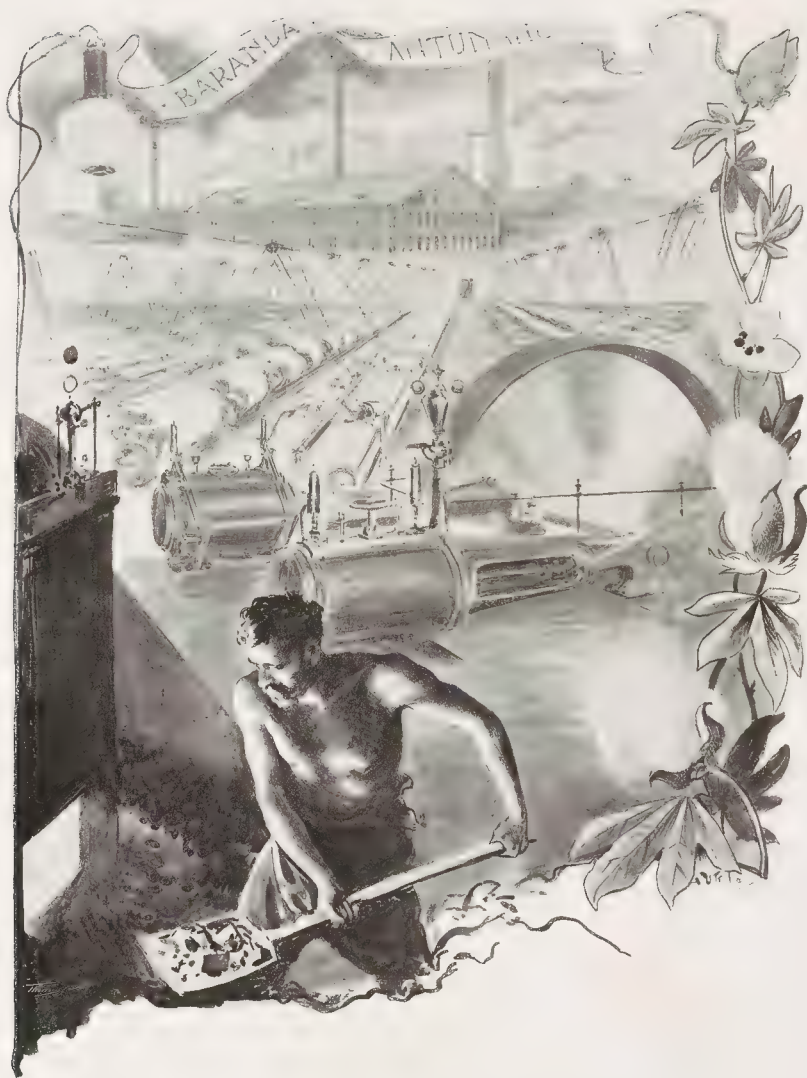
And what is more, much more, till then we shall have also educated, with inexhaustible carefulness and willingness, the most appreciated quality, which reaching the fulness of its development in the present century will give the Republic an irresistible force: the well oriented national character.

«The sublime are the obstinate» Victor Hugo has said. This maxim fluttering incessantly like a gold bee, luminous, before the eyes of the virtuous Mexican mothers and of our school masters whom we shall enhance in this century because they will be more and more the primordial factor of advancement, they will speak to the children of the great actions to make them germinate and after the philosopher's wise counsel will sow the good customs in their tender hearts to make character come out radiant from the pure tabernacle. Therewith peace, science and work will never descend from our altar and thus we shall travel with the least fatigue on the path we must continue ascending until we reach the aggrandisement and enhancement of our Mexican Fatherland.

Gilbert Crespo y Martinez







PART THIRD

INDUSTRIAL EVOLUTION

## CHAPTER FIRST

### THE PHYSICAL MEDIUM AND INDUSTRY

TERRITORIAL EXTENT AND STRUCTURE OF THE SOIL: DRAGS TO INDUSTRIAL WORK.  
CLIMATE AND HUMAN EXERTION. MINERAL AND AGRICULTURAL PRODUCTS AVAILABLE FOR  
INDUSTRY. THE FUEL PROBLEM. RACES: THE WORKMAN AND THE UNDERTAKER; THE INDIGENE,  
THE CREOLE AND THE MESTIZO AS ELEMENTS OF WORK. CONCLUSIONS

**T**HE passage from the agricultural period to the industrial one supposes in every human group determined conditions of the physical medium favourable to the evolution of public wealth. The resultant of these conditions, in combination with the energy of the race,—either availing herself of the natural forces or reacting against them,—yields progress as a necessary consequence.

The social aggregates wherein these antecedents are not realised, are subjected to remain at their starting point and doomed to failure at the first stages of life, however fundamental the elements of their welfare may appear, however vigorous the civilisation supported by those elements.

Egypt and India were two granaries of the old world, were two focuses of collective prosperity; but India and Egypt have remained aback in the general evolution of the modern States, because they missed the propitious factors for their industrial development. Oppositively, England and the United States are indebted to the conditions of their medium for their triumph in the struggle of the present competition of human work; England not only to its geographical position but to the abundance of its coal deposits; the United States not alone to their carboniferous reserves, but to the prodigality of their water currents.

A survey of these antecedents, a brief epitome of these forces, appear indispensable to bring into prominence the circumstances favourable or adverse, that have presided over the industrial evolution of the recently consolidated Mexican nationality.

**Territorial extent.**—The vast surface occupied by our fatherland, has not only constituted an energetic obstacle to national integration; it has not solely been a sharp and reiterated hindrance to the efficaciousness of a strong and solid State; it has not engendered the political problem as the unique one, but before it has created powerful drags to the prompt and easy production of social wealth.

An extent of two million square kilometers wherein the most diverse products are spread by abrupt jumps, by ascending lines starting from the coasts, does not in a natural way offer elements of conglomeration; does not give spontaneous rise to extensive nuclei of solidary industrialism. Those nuclei disseminate unlinked, far distant from the centres of consumption, from the sources of raw materials, from the markets of hands.

In the North-American Republic, on a wide field of action, there exists a well defined industrial localisation: the West is the region of the farms, of the large agricultural productions, on spacious meadows fecund by important irrigation works and studded with mining establishments, at the foot of the Rocky Mountains; the East is the region of the manufactures, in the neighbourhood of the carboniferous deposits and of the wells of natural gas.

In England, around the dark spot marking on the geological map the coal district of Manchester, the populous towns are gathering and the large industrial establishments are crowding. When we want to designate the localisation of the industries, we say: «Manchester is the town of cotton; Bradford, that

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INDUSTRY

DISTINGUISHED MANUFACTURERS

SHAREHOLDERS AND FOUNDERS OF THE MANUFACTURING COMPANY OF RIO-BLANCO

Joseph Tron  
Joseph Ollivier. Matthew Lambert  
Leo Signoret. Edward Garcin  
Antony Proal









of wool; Sheffield, that of steel; Birmingham, that of brass.» Four mining centres have given rise to four genera of manufactures: Yorkshire to that of wool; Lancashire to that of cotton; Staffordshire to that of hard ware; the kingdom of Wales to that of steel.

In Mexico, the typical industry, mining, is unequally distributed over the metallic deposits that occupy a surface of two thousand kilometers length by six hundred breadth, more than half the national territory. As for the still incipient manufactural industry, the establishments settled in three or four zones of the Central tableland, find themselves notoriously distant from the districts producing the raw materials. About the regions where there are coal layers to be found we must speak when referring to the gravest of our industrial problems: that which regards the stock and exploitation of the national fuel.

**Configuration of the soil.**—The gigantic gradatory rising from the two seas up to the central Plateau forms great differences of level in relatively narrow portions of land. This structure explains the absence of water communication; Mexico possesses no *walking roads*; the currents rush down from enormous heights and after uniting on the littorals they form rivers only available in a short extent for interior navigation with ships of little draught, at a short distance from both Oceans where, particularly in the Gulf towards which the greatest part of our foreign commerce is steering, open roadsteads studded with banks and shoals offer vessels an insecure shelter and render maritime manœuvres extraordinarily difficult.



State of Veracruz.—Orizaba. Barrio Nuevo falls

(From a photograph by Waite.)

Industry misses the facilities of a fluvial net like the North-American Republic's, motor and vehicle at the same time of the swift and increasing expansion of the revealing richness of those States. To refer only one example let us mention the advantages yielded in the exploitation of the coal layer at Pittsburg by the river Monongahela whose course follows for a long tract that of the famous deposit.

From the two first and inevitable conditions of the physical medium, extent and territorial structure, there derives as a cogent conclusion the absence of natural communications, fluvial and terrestrial ones, checks which when overcome, determine a surcharge on the materials delivered to industry, since the price of transport corresponds, at any rate, to the obstacles it has been necessary to overcome in order to carry those materials from the spot where they are produced to the centre of their transformation. Identical burden weighs on machinery and industrial tools which necessarily increases the amount of the working capital and the value of the manufactured product.

However in front of the difficulties which Nature seems to have been pleased to heap against industrial development we must point out the advantages arising out of this very structure for the utilisation as a motor force of the water falls descending along the two slopes. Therein we have a large quantity of available energy and an enormous saving of fuel; it is the seat of a future industrial focus, in the slow but sustained transformation of our economical elements.

**Climate.**—That industry is travelling from South to North, as an old economist of the classical school



affirms; that,—what now appears undisputable,—temperatures essentially modify not only the force of intellect and the physical energy of man, but also the direction and applications of the industrial potency of a people, may be, and perhaps is, a matter open to discussion; but the action of climate on the production and development of determined forms of human exertion, is a fact already proven by science.

The division of the three characteristic climatic zones (hot, temperate and cold) marks the possible industrial localisations.

In the hot zones, the most adaptable industry, transformation of the products of the soil, elaboration of sugar, tobacco and spirits, spinning of henequen, etc., stumble against the very elevated temperature, a too exuberant vegetation, large expenses imposed by nature herself and, ever lurking, the *black vomit* (yellow fever), efficaciously seconded by that other monster of our coasts, *malaria*.

The temperate zones offer more facility for industrial efflorescence. The mean temperature is from fifteen to twenty degrees of the centigrade scale, water currents are abundant and salubrity is perfect. There some manufactural establishments have found a favourable settling place; Orizaba, on the Gulf slope, is at present the centre of a marked industrial movement favoured by the resultants of its climate.

The cold zones, with temperatures rarely descending in the heart of winter below zero, are afflicted by a calamity directly affecting the most delicate of our national problems, the economico-financial one: lack of water.

Mining industry has branched over all the extent of these zones following the directions of the lo-  
des; the manufactures of cotton and wool tissues have turned to profit the proximity of centres of population rather than the advantages offered by climate; in the Frontier States a new industry, metal melting, has looked for the natural outlet of their great Mexican riches at the borders of the railways.

An attentive observation allows to infer that, save the localisation in the temperate zones, climate has exercised no influence on the distribution of the national industries.

More perceptible and decisive is the influence of the climate on the factor *work* which we shall examine with greater amplitude further on.

Not meaning to disavow the affirmation sustained by Engineer Aragon in the prolegomena to this work referring to the modifiability of the relation existing between the law of ambiency and the action of man, we must state it is an undestroyable truth that this action is restrained or widened by the climatic conditions of every district. The inborn laziness of the inhabitants of the tropical zones is a principle even less disputed than the exertion displayed by the children of the cold climates unless they exceed the limit of nature's adaptation to the economical progress of collective life. These premises once laid down it is not extraordinary to find that while the landowner of the hot climates is submitted to the well defined enervation arising spontaneously from the tropic, on the central Plateau the activities are readier for the task limited, nevertheless, if not by the anoxymia sustained by Jourdanet, but which at present meets a vigorous scientific contradiction, by the modifications exercised on the respiratory apparatus by the thermometrical fluctuations of the air.

**Mineral products available for industry.**—Inexhaustible as the richness of the subsoil appears, it is mainly characterised by a large quantity of poor argentiferous ores profusely distributed over the above mentioned zone. The low standard of the Mexican ores imposes as an immediate consequence the necessity to stir a large mass of material in order to obtain the large quantities of silver produced in the Republic. Hence the necessity of employing big capitals in this industry if it is to be exploited with all the good success it is able to yield.

In order to utilise ores of a higher standard it is indispensable to work in greater depths where water veins are found making the extraction of the metal still more expensive.

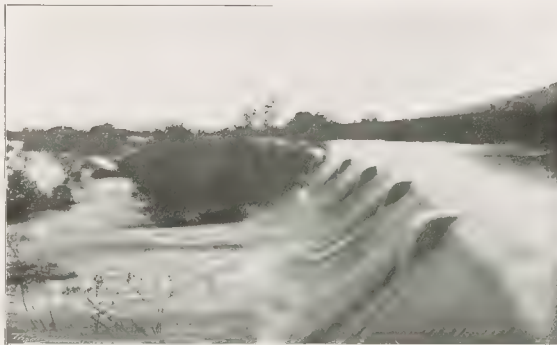
The exploration expenses rise with the difficulties of the physical medium; we know the country possesses abundant deposits of other minerals; specialist authors have carefully grouped them, however, while the underground is not known to us as it is in other parts of the world, as it is in Prussia, as

long as a rigorously scientific investigation does not determine it, the mining wealth, save the localisations of easy demarkation, will continue being conjectural, half hypothetical, diffuse.

And to obtain this precise, definitive knowledge, free from rhetorical efflorescences, how many fortunes it will have needed to spend in the exploration of this wide, dislocate, chaotic territory! And how many also to plant costly concerns in zones, unprovided with the necessary industrial elements and even missing the most vulgar and common needs for the conservation of human life!

Thus the *male* metal of industry, iron, figures only theoretically in the catalogue formed of the national wealth. They speak of the Cerro de Mercado, that stupendous metallic phenomenon capable, they say, to supply England with metal for the space of three centuries; they mention the meteoric masses of Oaxaca and the deposits of Guerrero and Puebla; but there the metal has remained without giving rise to a resolutely scientific exploitation.

Certainly, mining, considered in Mexico during many years a hazard, has not counted but in these last times on the help of science (capital, after all, is but one of the forms of modern science), the only thing that has succeeded in raising this industry above its primitive aleatory and empirical state. Not being conducted on technical processes, many mines have been abandoned, after consuming numerous small quantities of money gathered from the groups less favoured in the share of the social fortune. Is it to this circumstance the bold paradoxical affirmation of a Mexican publicist must be referred, sustaining it is not yet quite proven if mining constitutes or not in this country a really remunerative business?



State of Jalisco. The River Santiago  
*El río de Santiago en Jalisco*

**Agricultural products available for industry.**—The great national error,—so Justus Sierra has affirmed at the Athenaeum,—was born the day when Iturbide told the first citizens of the new democracy: «You are the richest people in the world.» And since then the riches of our lands have served as a subject matter for a literature plethoric of images and dithyrambs clinching in popular conscience the future emperor's phrase. And the rich lands have, by little and little, become sterilised, nobody endeavouring to renovate its fertilising elements, no one thinking of substituting our old and useless producing material.

However, the moment came when the consequences were touched: materials which in former times had largely satisfied the home demand, slowly diminished their bulk. So it happened with cotton. We all know that when the Spanish conqueror landed here, Motecuhzoma's empire, according to statements of the Mendoza Codex, produced a larger quantity, perhaps twice as much, as is at present produced in the Republic. When Baron Humboldt visited our country, New Spain, after satisfying the consumption of the colony, still exported more than three hundred thousand kilograms to the European markets and the illustrious scientist assured Mexico and the United States would some day produce all the cotton the old world might need for its manufactures. The years have passed by and Mexico must import yearly the third or fourth part of what our toilsome blanket industry needs.

What has determined this situation? Simply the enthusiastic acceptance of Iturbide's words: carelessness, ignorance, the horror of knowing ourselves.

Official accounts rendered by agronomists commissioned to study the cultivation of cotton in the country have made us aware that in the State of Guerrero *they begin to use the plough* at some plantations and that in Oaxaca where there exist extensive cotton zones the hand of man does not assist nature in the form to be desired.

In the Yucatec peninsula a fibre, henequen, has sufficed to make the prosperity of a district, not giving rise, however, to all the industries which avail themselves of this plant as their raw material. The cultivation of henequen is a triumph of work, energy and capital over the physical medium.

That country offers a disconsolate aspect, its climate is one of the most insalubrious of Mexico's, rain water finds no declivities by which to flow off freely, the land extends in a petrified plain: there it is where man's exertion has operated with vigour until creating a centre of wealth. The Yucatec landowners' perseverance shows itself not only in the exploitation of the ground, but also in the crises undergone by henequen in consequence of sudden falls in the price of the product. Will they be able still to resist the struggle which perhaps is waiting for them in the future against the competition of the similar fibre of Manila hemp, if American imperialism, triumphant in the Philippines, carries to those remote islands, together with their robust initiative, the fecund current of their capitals?

There are other plants the Mexican land forwards for industrial transformations; some (flax, pita, zacaton, lechuguilla) are still imperfectly or scantily cultivated; others, like the colouring substances (indigo and cochineal), which the progress of science has economically withdrawn from consumption. The maguey may forward an excellent raw material for industry, but at present it only serves to elaborate spirituous drinks which by their abundant consumption depress the moral state and restrain the labour of the lowest social classes.

The exploitation of the forests favours the creation of various industries having wood for their raw material. Unfortunately, *cutting* is done with very little care, tall trees are felled to utilise small pieces and the most imperfect and rudimentary methods are employed. The exploiters are generally resourceless persons concluding contracts with the owners of the ground and receiving either from these or from the exporters determined sums of money on account of their work; but their debt growing incessantly, they try to find a compensation by reducing the size of the pieces they throw on the market. The opinion of persons competent in this matter is that the exploitation of the forest riches with capitals and intelligence offers an excellent prospect.

Two vegetable products give rise to two industries definitively rooted in the Republic: the sugar cane and tobacco. As for the former its cultivation is still very imperfect, little modern machinery is used and routine is lamentably prevailing on most plantations to which drawbacks we must aggregate the scarce offer of hands in a multitude of productive zones, hot and unhealthy, where the want of drainage of the ground, as it is practised in Cuba, makes the plant lose a good deal of its saccharine substance. The competition of the beet root and the constant diminution in the price of sugar are serious drags on the development of this industry which, while in former epochs, like the cultivation of cotton, it supplied elements to exportation, in our days is limited to provide the inland consumption.

Tobacco has promoted a prosperous industry of a great future. Along the coasts of the Gulf excellent lowlands are abounding, large rivers are flowing, the temperature is agreeable and nothing is wanting but men and money.

Will the same successfulness be assured for the vine, the plant pursued by the colonial Government and with whose juice the liquor of the emancipation was elaborated? The active propagand officially carried through for some time on behalf of this cultivation has given encouraging results in some districts while it has failed in others. The plant asks for lime ground and such are existing in the Republic; however, many cultivators have attempted the culture on silicious ground, the least adequate of all. For the cultivation of the vine, if the business is to be undertaken with the best prospectiveness, it is indispensable that it be conducted by wealthy persons or by strong companies. Here also knowledge and money is needed.

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INDUSTRY



**Puebla.—Large weir in river Atoyac (Portezuelo estate)**

FOR ELECTRICAL FORCE AND IRRIGATIONS IN THE VALLEYS OF ATLANTIC AND PACIFIC









Thus from all the exploitations of raw materials, both mineral and agricultural ones, destined for industrial work, the obstinate and persistent cry is to be heard: «Capitals! Capitals!» And the fact is that in the present conditions of human life, Capital is a necessary function of Progress.

**Fuel.**—A Mexican publicist has said that without pit coal there would be no large cities nor great nations. The industrial development of England, Germany, Belgium, the United States, has had, indeed, for its main if not unique agent, their coal deposits. Without them, those States would have been long, perhaps indefinitely long, in reaching the post they at present occupy in the development of their social wealth.

For Mexico the fuel problem is so much the more important as the coal coming from abroad to the industrial centres of the interior of the country has to suffer heavy charges for transport. At first this problem seemed to be resolvable having recourse to the enormous reserve of wood contained in our forests; but however enormous this reserve may be supposed, industrial advancement in concordance with railway work, has at length produced immense voids in the vegetable mantle that formerly covered our territory.

Then it became necessary seriously to investigate whether in the Republic there existed mineral fuel and with that aim the Federal Government named a technical commission charging it to explore the districts where it was most likely that carboniferous deposits would be found.

At present we know that in different parts of the country there exist coal layers; that in the wide desert known under the name of Bolson de Mapimí there are extensive strata of coal and that the Sonora basin comprises an extent of *eleven thousand* square kilometers, that of Coahuila *eight thousand* and those of Puebla and Oaxaca more than *one thousand* each.

Thus we see the widest and at the same time richest fuel zones (up to 92 per 100, the famous *black gold* of General Rosecranz) appear in the Northern States of the Republic and their exploitation has begun to be effectuated although not yet on the scale those regions do allow. However, a curious phenomenon is arising here caused by the territorial conditions: the coal won in those zones, instead of taking the way toward the industrial centres of our country, travels towards the United States where it finds nearer markets and arrives not so overcharged as if it were sent down into the interior of the Republic.

Thus the anti-economical fact is to be registered that while on the tables of our exterior commerce there figures every year an exportation of from one hundred to one hundred twenty thousand tons of coal, our forests are implacably felled to supply fuel for the national industry.

**Races.**—A lamentable blunder would be committed by him who in a serious study about the ethnical elements of the Mexican family, would be satisfied with the habitual classification into three groups: the creole, the mestizo and the indigene, since this last alone is fractioned into a diversity of tribes well differentiated from one another. For our purpose and from the general point of view guiding this work, the intervention of the human factor in the industrial labour determines its division into two classes dis-



State of Veracruz.—Chiquihuite ravine  
(From a photograph by Bréquet.)



tinct from one another by the nature of their tasks: the labouring and the directing, the workman and the undertaker, the former constituted by the indigenous group and the latter by the creole and the mestizo.

A brief examination of the characters and aptitudes both physical and intellectual that distinguish the individuals composing those classes will soon make us aware whether they realise in a complete manner the functions intrusted to them by the economical evolution or whether there appears any loss in the working of social energy.

The modern industrial engine based on the progressionist law of the economy of the forces has not succeeded in suppressing the intervention of human vigour. It has widened, to be sure, the exercise of the mental faculties, but leaving subsistent an irreducible part of muscular effort. Two are therefore the conditions to be fulfilled by the industrial workman for the perfect performance of his task: physical resistance and intellectual aptitude.

Up to which degree do our working classes accomplish these two conditions?

The vigour of the indigene to support certain determined forms of waste of forces,—the fatigues of a long day's work, for instance,—is no proof of his physical energy at industrial labour. The facts we possess, on the contrary, demonstrate the weakness of the Mexican workman.

This weakness is valued by the lesser number of unities of work done by the Mexican worker, in comparison with those rendered in the same task by the labourer of other nations. By an investigation about this matter it has been proved that if a French workman can manage four looms, a Belgian five and an Englishman even six and eight, a Mexican arrives at two as a *maximum*. And so it was to be, for the abatement of the indigenous race is a necessary consequence, fatally necessary, not only of the hostility of the medium in the first stages of the aggregation, but of the conditions amid which he historically evolutionised.

The antecedents of his muscular exhaustion lie in his want of food during his primitive peregrinations, in his submission to the oppressing classes before the conquest, in the yoke he has borne under this and still afterwards; in his incomplete nutrition, in his breeding under serfdom, all of them causes that hold him nailed to an unredeemed cross.

Slavery is a bad school for work; the man whom the whip shakes out of the prostrations of hunger, feels at last in his being the irremediable laziness of the conquered. Written law may declare him free, but another superior law, because emanating from all that surrounds him, dooms him without appeal to his atavic somnolence.

And there also, in those origins, we must look for the cause of the blanks we discover at the intellectual bottom of this race.

If its abatement is an effect of the causes that have determined his submission, its lack of ampleness of mind is a consequence of the narrow conditions of his life. Its want of aspirations, its stoicism to support the most wretched condition synthesises all its history. Wont to walk with a guide either sheltering or hostilising him, he is in work an excellent imitator, careful and patient, never attempting to simplify his task which he accepts willingly, although without enthusiasm. Without imagination aptitudes or preliminary education, like isolated in a melancholic dream, the indigenous workman is unable to become an artist, as the European worker is at opportunities, and less a manufacturer of products in large quantities, as the American workman is.

Such are the characteristics of the first of the two classes intervening in the industrial work.

The function of undertaker claims solid aptitudes: spirit of initiative, technical education, great energy of character, among others and which our two directing groups, the mestizo and the creole, are very far from possessing. Alaman and Mora, the former perhaps more penetrating than the latter, this of a loftier criterion than that, have left us some instructive pages about the intellectual and moral value of both groups as elements of national development. In the components of their characters the explication of all our history is to be found.

The Mexican creole, offspring of the primitive European emigrant, whom a toil full of privations had

finally placed at the head of business, did not inherit from his father the habits of economy, love for work and tenaciousness of purpose. Bred with liberality, fond of the pleasures, prodigal and idle, he soon lavishes the fortunes elaborated with so much exertion by his ancestors. It is not here we have to look for the active and energetic personnel needed for industrial management. Shall we find it in the mestizo?

The mestizo has been said to partake of all the defects and of few of the virtues of the two races that engendered him. The Castilian conqueror has transmitted him his restless and adventurous mind; the Indian his levity and indolence; his firmness in front of bad fortune is perhaps a product of both sources. Audacious, violent, lavish, ingenious and also resigned and serene before adversity, the mestizo has led his submission and his protestation through the Republic's turbulent past being at the same time rebel and oppressor, victim and tyrant.

Both groups, the creole and the mestizo, steering towards a literary education, have fomented national *parasitism* creating an immense class that has sucked its juice from politics and art, from academic discussion and the controversy of the public problem, when they have not carried their initiative to the more infecund ground of the force. Bureaucracy has been their school of life and for it and through it they have incessantly agitated.

Abdicating the industrial work into the hands of foreign immigrants, have not those groups given a decisive proof of their inability to possess themselves of the direction of economical progress?

**Conclusions.**—It is easy to deduce the consequences emanating from the elements of the physical medium in relation to the object of this study. Different natural obstacles oppose, as we have seen, the Republic's industrial evolution. The destruction of these obstacles imposes a large sum of exertions: big material works, development of energies, amassment of capitals, scientific breeding, slow and tenacious work to remove the hindrances that spontaneously arise in front of the development of national welfare.

Having fixed the propping pieces of our relation we are going immediately to begin it. Over the vast stage we have outlined History is going to stride.

## CHAPTER II

### PRESpanish EPOCH

LAST STAGE OF ECONOMICAL EVOLUTION. CHARACTERS. DOMESTIC INDUSTRY. WAR AND IMPOST AS INDUSTRY'S AUXILIARIES. ANOTHER AUXILIARY OF INDUSTRY: COMMERCE. MERCHANTS AND WARRIORS. CORPORATIONS; DIVISION OF WORK. INDUSTRIAL DEVELOPMENT; INDUSTRIES DESTINED TO SATISFY NEEDS OF DIRECT AND INDIRECT CONSERVATION OF THE GROUP; METALLURGICAL AND SUMPTUARY INDUSTRIES; ARTISANS AND ARTISTS; MANUFACTURE OF PAPER. STATE OF INDUSTRY AT THE ARRIVAL OF THE SPANIARDS.

**H**OWEVER incomplete the statements seem we possess about the times anterior to the Spanish conquest, they allow us, nevertheless, to determine the last stage attained by ancient Mexico in her economical evolution.

It was then a country beginning to come out of the agricultural period and to enter that of minor industry.

As for political organisation this period corresponds to a barbarous monarchy based on a semi-feudal system, origin, may be, of deep rooted *caziquedoms* exercising a profound influence on our country's history.

**Characters.**—In the progress of the societies this phase is characterised by a group of facts inherent to it: division of the occupiers of the territory into two castes, one at first warrior or sacerdotal and endowed with both functions at the same time later on, and the other, submitted, tutored, reduced to servitude; unequalness in the distribution of work and production: overflowing consumption, needless waste of energies (huge buildings, enormous luxury, bloody wars, sacrifices of human victims, etc.), by the oppressors; misery, hunger, slavery in the oppressed; a tyrannical fiscal system, high imposts; a legislation both paternal and severe; a solid discipline for all the manifestations of collective activity; correlative communistic regime in the exploitation of the wealth. These are the main lineaments.

Within this regime in which all was foreseen, but at the same time all was restrained, the function of the producing classes was subordinate to the needs of the consuming classes entrusted to find outlets for the common task. In the exigencies of these latter groups we must seek, save the objects indispensable for domestic life, the industrial steerage of the primitive Mexicans. In the pompous court of Motecuhzoma and in the marvels of the *teocalli* we must see not only the natural outlets of social labour,

but the directing action of the undertaker; in the tribute to the sovereign and the noblemen, as well as in the offerings to the god, there lies the force of a tyranny weighing on the labour of a group. From the facts related with the economical and political condition of a people, as from the gigantic ruins revealing a civilisation, we must infer the mental state of the labouring centres, the elements of its industrial potency.

Let us investigate those elements a little further.



Nahoan woman spinning

**Domestic industry.**—As long as the aggregate constitutes a nomad tribe without other means of subsistence than the exploitation in its simplest form, without successive transformation of

nature's products,—hunting and fishing,—there is no industrial labour apparent, this being a consequence of the group's fixing on the soil.

The primitive migrations had for their only object, we know, the collective action against the exigencies of hunger which hovers like a fatidical bird over the peregrination of the peoples crossing the territory and sowing it with numberless victims. The first manifestation of higher social life appears with the first attempt at cultivating the ground; homesteads are founded and the indispensable tools are a consequence of the primitiae of the soil; pottery, ceramics, suppose a determined agricultural development. The Nahoas already offer this characteristic phase of human evolution.

However, the actual appearance of industry takes place with the discovery of a plant that comes to modify improvingly the conditions of that existence: the *maguay*. The whole civilisation of the Meshica rests on that agave, found, we also know, during the excursions of those groups across the Central Tableland. The finding of the *maguay* was for those peoples what for the Arabs was that of the palm tree: an unhopd for element of subsistence and a material agent of progress.

The *metl* forwards food and substances proper for spinning and dress making and for the manufacture of paper; with its stalks they make beams and stakes for dwellings; the dry blades are used as fuel and the pricks as nails and awls; from the sap of the leaves they draw honey, vinegar and gum and in its hollows rain water keeps as in a deposit created by nature herself. A providential plant it regenerated a race dooming it at the same time through the intoxicating drink it procures, to abjection and decay.

Then those groups could dedicate themselves to new elaborations which by little and little augmented the materials of their primitive existence, their industry, nevertheless, not passing the narrow limits of domestic needs, until social forces came to widen it, making it leave the hut for commercial circulation. Those forces were war and impost.

**War and impost as auxiliaries of industry.**—In its first phase war offers a character of unheard ferociousness; every vanquished foe is beforehand doomed to death; it is the period of the *industry of robbery and murder* according to the classification of a sociologist, as a base for the conservation of the groups. Later on, struggle, not losing in these first pages of primitive history its cruel aspect, served to utilise on behalf of the vanquishers, the vital energy of the subdued. Slavery appears, and with it the merciless availment of human exertion.

The Aztec conquest offers this second aspect of evolution; therein, the large edifications, the temples, the palaces represent an enormous sum of forces employed in a labour, useless if we refer it to a preconceived purpose favourable to the welfare and progress of the social aggregate, beneficial if we consider it as a means of promoting collective activities. The gods claimed victims immolated on the altar stones, but the splendour of the kings and nobles asked for arms to maintain their unbridled luxury; both groups join their efforts undertaking monumental works destined to satisfy their exigencies of domineering classes.

Thus the causeway linking Mexico with Coyoacan was a work imposed by Itzcoatl on the vanquished peoples in this first period of the contention; the Tecpanecs, thrown out of their dominions, vagrant during four years, obtained the hospitality of Tecocotzin, lord of Cuauhtitlan who utilised them to repair the banks of the river that threatened the shore districts with devastating inundations; the temple of Huitzanahuac was erected by Motecuhzoma Ilhuicamina with the help of the men conquered by him; when the building of the great *teocalli* was undertaken, a considerable number of Meshica messengers travelled across the conquered provinces, in search of hands for the work that was terminated by the Huastec prisoners and other captives of the vanquishers; and the rebellion of the Chalca was punished dooming the whole population, men, women and children, to take part in the raising and repair of the public buildings.

How otherwise would it have been possible to carry out the celebrated palace of the kings of Texcoco, in which, an historian says, two hundred thousand workers were employed, if it was not having recourse to the compulsory labour of the subdued tribes?

And this function of war becomes manifest not only by a renewed impulse transmitted to collective exertion, but by a more and more accentuated differentiation of the common task. Then the division of labour arose; there appeared the distinct groups of operaries, the artists, the decorators beside the carriers of blocks and the mechanics.

Through the great works of the military conquest, through their fortified places, through their temples, through their palaces, we see defiling a long retinue of artisans, engravers, jewellers, sculpturers, casters, manufacturers of plume mosaics, painters, led by knowing captains: engineers and architects; there passes an immense legion of activities pushed on ways conducive to the creation of a varied industry.

This first influence of war was very soon to be joined by that determined by the tribute, an economical fact derived from the aggressive military organisation of those groups.

In its beginnings the Aztec conquest limited itself to distribute among the vanquishers the grounds occupied by the conquered; the warrior became transformed into a landed proprietor and erected, later on, into a cazique. The mere occupation of the soil is followed by its permanent exploitation and afterwards, under a modification of the system, by the adjudgment of the products of the lands and of the materials transformed therefrom.

Tribute is then considered as a natural consequence of the struggle and on the very battle field we see the Meshica and the Tecpaneca discuss the quantity of the charges; the vanquished propose, the vanquishers exact, these apostrophise, the former barter until at last they come to an agreement.

In this way impost, such as it became, exacting and burdensome, constituted an active motor of



Nahua woman weaving



industrial development in rudimentary agglomerations still missing the vigorous stimulus of collective consumption. It suffices to cast a look at the plates contained in lord Kingsborough's work in order to observe how the burden is composed both of agricultural and of manufactured products: cotton clothes, feather mantles, armours, ear rings, copper axes, amber jars, diadems of precious metals, rolls of paper, vessels, girdles, bracelets, all the elaborations characterising that civilisation.

Nor was this the only service rendered by tribute that determined a kind of industrial specialisation, each district progressing in the cultivation and transformation of its characteristic natural resources: Coaistlahuacan, Coyolapan and Tlaxquiauhaucó, must deliver, respectively, forty and twenty five bags of cochineal, substance coming from the parasite of a plant growing in those regions; Toxtepec payed 16,000 lumps of gum drawn from trees of that country; Mixtecapán and Tzapoteca satisfied their tribute with the gold they sundered from the alluvium earths; Xoconoxo, 200 loads of cocoa; Axocapán, fourhundred jugs of maguey honey; all the subjugated regions came to aid the expenses imposed by the upper classes with their own products either in their primitive state or modified by the labour of their inhabitants. Thus the cultivation of the maguey gave rise to the manufacture of paper specially developed in Culhuacán and Tlaxcallán, in zones where the agave widely extends its leaves; and the remarkable plenty of vividly coloured birds crossing the tropical sky gave birth to the industry of painting and the mosaic of feathers.

Some districts, however, satisfied the impost with manufactures elaborated with raw materials coming from far, then an adaptation of the work being realised to determined industrial forms.

Thus workshops for cotton tissues were created at spots where the plant was not harvested and it is an authorised opinion that the people of the cold lands were cleverer in the manufacture of cloth than the inhabitants of the hot zones where the filament was abundantly produced.

Tribute went still farther in the matter of the division of work, since the form of collecting it determined the associations in guilds, thus the corporation system becoming instituted whose influence on industrial evolution we are to examine very soon.

In sum, wise Orozco y Berra has well said: «The volume of the imposts reveals at the same time a prosperous and widely cultivated country and a hard tyranny; but this tyranny, we insist on this fact deeming it unheeded by our national historians, exercised a great influence on the development of work and on the exploitation of the producing springs.»

**Another auxiliary of industry: Commerce.**—A new element enters into play in the industrial development of those societies: commerce.

At its beginnings, commerce answers a physiological necessity of the tribe; it arises when this feels hungry; it is then a pacific peregrination, sometimes becoming aggressive, through farther and farther districts whence it draws at first the products indispensable for subsistence and later on, this first crisis being overcome, it cares for aesthetics and adornment.

The Meshica, settled on the islets that constituted their first refuge, not disposing of a sufficient quantity of substances for their food, organise an active traffic with the shore people of the lagoons who supply them fish and water fowl. Later on this traffic widens, passes over the narrow limits of the occupied ground and penetrates into provinces inhabited by other tribes. In this way the merchant was the precursor of the warrior; what conquest realised, had been already initiated by commerce.

The Aztec caravans, indeed, do not follow like the Arabian ones, the military expeditions nor are they aided by them, but they rather anticipate the latter. The merchant was the explorer of the conquered lands, the spy and the ambassador of the conquerors. Hence the military organisation of this class arises, their aptitude to hasten to a prompt defence.

The caravans went forth in war order, ostensibly armed, unfolding their banners, ready to repel any aggression they might meet. And so they strode, never turning their face aback, because this, a chronicler says, was deemed of bad forebodement, amid allied or hostile peoples, exchanging ideas together with their products, opening with their excursions the ways for conquering civilisation.

It is easy to understand that the importance and complexity of such functions claimed the constant and decisive support of the superior groups. The *pochtecatl* was, indeed, a privileged person, possessing his special jurisdiction and enjoying a certain number of immunities that distinguished him among the rest of the plebeian trades. It is no wonder we see, in the hieroglyphs of the epoch, fathers counselling their sons to vow themselves to commerce, an institution ennobled by the laws.

The first service done by commerce to social labour was to mark outlets for the circulation of every region's products. These roads, amid the natural difficulties and those created by the aggression state the peoples lived in, became at last actual currents by which not only the fruits of the soil and subsoil were running, but also the objects elaborated by the industries.

Southward, most presumably, that channel was leading; and so it was likely to happen since toward the South there were to be found the valued and rare products coveted by the oppressors' luxury, in exchange for the objects which the labour of the inhabitants of the Central Tableland was able to supply in abundance.

Thence the Aztec merchants brought plumes, cocoa, minerals and precious stones, and also fibres to



Drawings on Nahoa mats

weave dresses with, having given in barter for these products obsidian weapons, blankets, bells and flints. Human merchandise, we are quite aware of the fact, also figured among the number of the objects of barter.

The southern districts may be said to constitute a plentiful market of raw materials utilised for transformation on the high Plateau and once transformed the merchants took charge of spreading those materials. Industry received the expansive impulse from the half adventurous excursions of the caravans.

The diffusion of goods was undoubtedly favoured by the want of metallic species. It is true those peoples had a kind of money made with pieces of copper that in rigour gave the exchange the character of a buying and selling operation; but in most of the transactions the agricultural and industrial products were directly figuring. Cocoa, salt, gold dust and specially cotton tissues were the standards of value in commerce. Twenty blankets made the normal price of slave.

And as traffic was spreading by little and little, the articles destined to barter were obtaining a livelier demand and industry found in commerce a new stimulus to be added to those it had received from war and impost.

Having determined the part acted by the directing groups, we must now examine the role performed by the directed ones.

**Corporations.—Division of work.**—The oppression the lower classes were lying in had a tyrannical aspect, but also another at once paternal and educational one. Slavery existed, but the slave's son was born free; serfdom was instituted, but law determined the forms how it might become extinct. The political and economical structure of that society did not pass the limits marked by history in the unprecise period that leads from barbarity to civilisation; but this structure was modified by certain directions impressed on social labour and determining the division of work.

One of these directions, the most important among them, was that which organised the workmen into corporations which in this stage represent a great advancement in the complex of the general task.

The corporations of the old Mexicans were not, like the *brotherhoods*, *guilds* and *trades* of medieval Europe, an institution of the working classes to support one another against the violences and exactions of nobility and clergy. The Meshica corporations arose from the spirit of discipline that animated that society, from the strict regulation to which the functions of all the human unities were submitted.

A fiscal conveniency confined each group of workers to a determined ward and this differentiation soon created the guild with its chief, its tutelar deity and its religious festivities. The same work was perpetuated in one sole family, the crafts passing from father to son and so work could become specialised and refined until products of extraordinary nicety were elaborated requiring the collaboration of many individuals.

An example of the degree to which division of work has been carried and of the gradual improvement of work is offered us by the industry of plume mosaic, one of the most admired by the Spanish conquerors. To execute a piece of this class, various artificers met and having agreed the drawing each of them took charge of a fragment; then they joined all and if the whole proved imperfect they began once more until the object resulted blameless.

Certainly, the indigene's attentive and patient character ready to oppose to any obstacle his scrupulous perseverance largely contributed to assure success. One of the first Castilian historians relates that in making up each of those fragments, the Indian was wont to spend a whole day in accommodating one feather after placing many and examining which was the fittest for his purpose.

Could this detailed, restrained, labour shut up industry in the frame of routine and limit its horizons?

In the old world the corporative system improvised a monopoly in the very moments when competition came to undo a whole regime; labour claimed for emancipation and the *guild* becoming the privilege of the plebeian, obstinately opposed. But in the primitive Mexican society the general task had not yet passed beyond the first stage. It was, we just saw, an undecidable law imposed on common exertion. Those groups wanted spontaneous cooperation and therewith initiative.

Serfdom was not perturbed by any collective movement nor was industrial work by any individual attempt. Within this social and economical state progress adopted the coercitive form, only one compatible with the character, habits and tendencies of the aggregate. Regulation forming a complex of special obligations for every class, constitutes a quite perceptible advancement in that civilisation's industrial march.

**Development of industry.**—The first means of subsistence having been regularly secured, that is to say, the agricultural period having been established, industrial production is developing at the rate the remaining necessities are coming to the foreground.

The first industry to be considered is clothing, because it relates to the preservation of the individual within the kind.

The development this industry attained may be appreciated by the habits stated in the history of that time and by the impositions of the law. Here also the caste system makes itself felt.

While the upper classes were brilliantly dressed, the plebeian was submitted to a sumptuary legislation hindering him to use other clothes than those woven with the maguëy fibres and the ordinary cotton ones; the *tilmatli* and the *maxtlatl*, of shining colours, with nicely elaborated trimmings and garnitures, belonged to the exclusive consumption of nobility and priesthood, pretty considerable through the number of individuals forming this group.

In order to supply the materials they were missing, they had devised ingenious expedients; they substituted silk with plumes and rabbit-hair, and flax and hemp with fine filaments of maguëy and of palm. The method used to prepare these substances did not differ much from that then employed by the Europeans in the preparation of their textile fibres: they soaked the plants in water, cleansed them

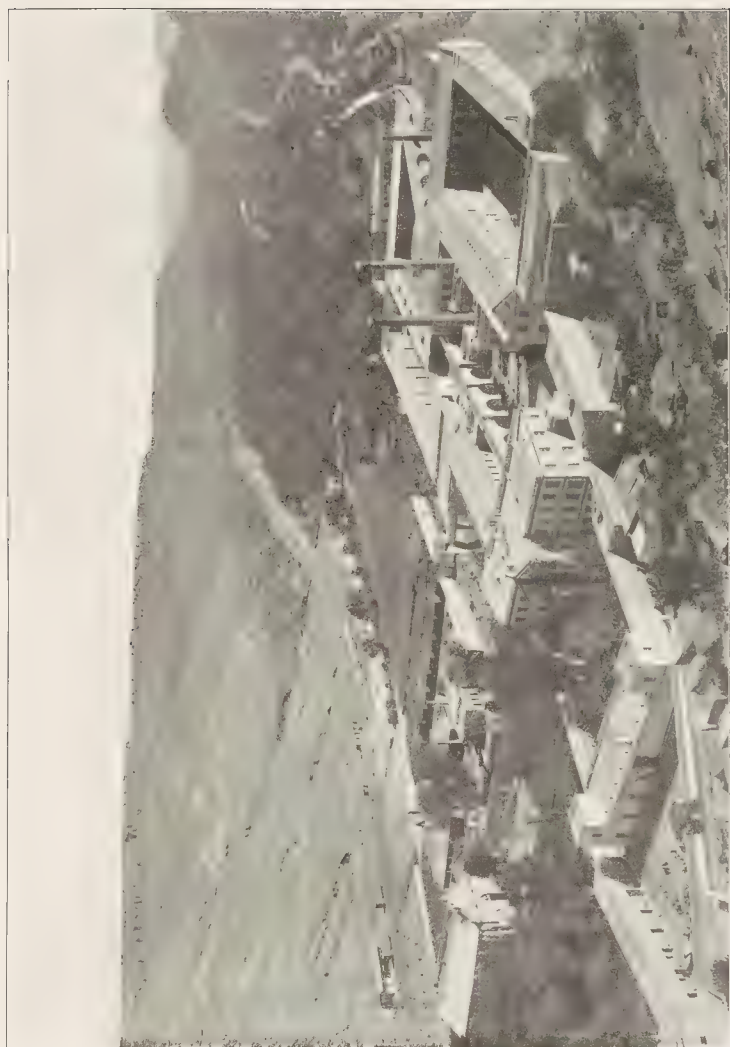
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Manufactures and industries

Querétaro—Spinning and weaving mill «Hercules»









carefully exposed them to the sun and macerated them afterwards until the fibres had the flexibility indispensable to be woven. As for cotton they span and wove it on looms of a primitive construction of which there still exist specimens in the present house industry, aided by *capstans*, manual tools very similar to those used by the inhabitants of several European countries.

The delicacy and nicety with which many of those tissues were elaborated has been stated with praise by the Spanish conquerors themselves. Clavigero mentions a priestly garment of the Meshica which sent to Rome caused the admiration of that Court. And Ferdinand Cortés relates how «the said Mutezuma



Michoacan.—Uruapan. River Cupatitzfo. Camela fall

gave me many clothes of his own which were such that, considering they were all cotton and without silk, in all the world no equal could be made or woven, nor of so many different and natural colours nor workmanship.» A clear idea of the import of that industry is given us by the roll of tributes where there appear 1,328,000 bundles of blankets (72,000 pieces and 96,000 shirts). The empire being densely peopled, agricultural labour being carried to a high degree, the portion of the oppressor groups growing more and more, this industrial manifestation could develop so much that the produce passed, as we have seen, beyond the needs of demand so as to figure as a sign of exchange in mercantile transactions.

Annex in a certain sense to the clothing industry was that of the feathers completing the art of dressing. Tufts, mitres, breast plates, trimmings of nobiliary tunics came out of the skilful hands of the *amanteca*; and from this infinitely refined labour, painting arose and the mosaic construction we have mentioned above. They caught with nets or bred in cages the birds destined to yield their feathers for these works, turning to account all the immense variety of birds that tear with their wings the horizons of the Mexican land.

The perfection of the work was also warmly admired by the first Spaniards landing on Aztec soil. Father Acosta feels delighted at the sight of the brilliancy of the colouring, of the nicety of the drawing,



and the skill to imitate the work of the pencil. Cortés, Bernal Diaz, Gomara, Torquemada are not less raptured. Indigenous art rendered flexible, almost frail, by the foremost quality of the race, patience, finds in that industry one of its chief elements of expansion.

Industrial organisation destined to satisfy the most pressing exigencies of social life compulsorily marked for exploitation the raw materials abounding in the territory. The agaves and filamentous plants were the first; then came other material of the vegetable and mineral kingdoms.

They were followed by the manufacture of sugar with the juice of the maize cane, of spirituous drinks extracted from the same cane, from the maguey, the palm and the pineapple; then came the obtention of salt by means of some primitive methods of washing the saliferous earths of the Valley; the preparation of chocolate with the kernels of the cocoa-nut; and there also came the objects of domestic commodity: furniture, rush beds, bark vessels, palm leaf mats and, above all, the products of pottery.

Pottery was, indeed, one of the oldest industries exercised in the several civilisations that succeeded one another in Anahuac. It belongs, as has been stated, to the epoch when the nomad tribe becomes immobilised for the first time on the soil; it was known by the Nahoas and from these groups it was taken over and successively improved by those who followed behind.

In the last years of the Aztec flourishing the art of clay working exhibited objects of a certain elegance; they covered them with an ochre coloured varnish on which they traced some complicated pictures. Of whose consistency we may judge by some vessels found in the tombs of Cholollan and which after remaining under ground rather more than four centuries show all the primitive brilliancy of their different colours. At opportunities they subordinate usefulness to fancy producing vessels of grotesque shapes, of impossible animals, of deformed idols; the artificer has replaced the operative, putting the soul of a symbol into the work, marking in those familiar objects the road of an ideal, first effort of an incipient art which, later on, was to find materials of greater consistency, more appropriate more technical so to say, for its manifestation.

They found those materials in the products of the mineral kingdom turned to profit during the first times in the needs of domestic life, afterwards for the defence of the groups (as weapons) and at last in the sumptuous industries.

The Meshica not only worked the minerals found on the surface of the earth, but they searched them in the depth, opening pits, caving adits, in one word, initiated an extensive subterranean labour that set in movement a large mass of metals.

Metallurgic arts and industries developed at the rate this labour was advancing. They certainly did not know iron or, if they knew it, they ignored the way how to work it; but the oldest metal of the oldest civilisations, copper, figured foremost on the list of mineral raw materials. They alloyed it with tin to make it harder and so they manufactured axes, chisels and other objects whose resistance has been greatly admired.

The arts of moulding, engraving, chiseling and sculpturing minerals grew in importance; the works of the gold and silver smiths were spreading about, a demand began for lapidary work and the operatives became more and more skilled in their task. They manufactured gold and silver vessels in the chief towns of the empire; they wrought plate of precious metals; they elaborated jewels with a skill only comparable with its richness. The Spanish conquerors feel surprised at the sight of some of those works which the Sevilla goldsmiths themselves deem inimitable. Arts that have been lost, elaborations that have been forgotten, perhaps under the influence of the transformation of the national labour or, may be, of the change of the industrial and social system or, by chance, of the increasing decay of the indigenous race in contact with another civilisation.

Thus, Prespanish industry gradually passed through all the different stages marked by the history of the social and economical evolution of other peoples: having been domestical in its beginnings, destined to satisfy the needs of the direct conservation of the group, later on, it procures the indirect conservation of the same when the question is to repel foreign aggressions; it widens and spreads with

conquest and commerce and it improves, becomes subtilised and quintessenced with the refinements of luxury rousing aesthetic feelings in the oppressor classes.

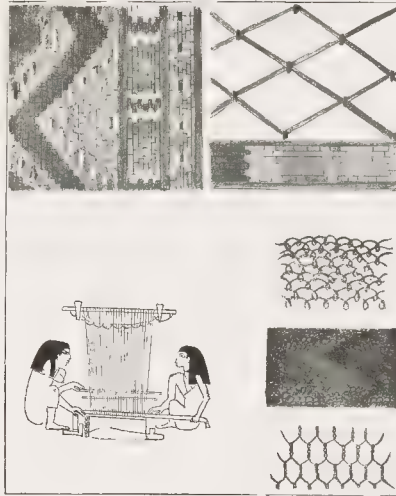
The last link of this chain must be found, perhaps, since it answers an intellectual necessity, in the industry of paper made utilising the maguey fibre and of which a large consumption was made in the Aztec empire if we are to judge by the Mendoza Codex.

Paper was manufactured by macerating the leaves of the plant until the fleshy part became separated; then the filaments were cleansed and disposed into layers which were burnished and shaped into sheets. They also elaborated a *papyrus* employing a process very similar to that used by the ancient Chinese in the preparation of the same product.

The Aztecs utilised the paper and the *papyrus* not only to fix on the sheets with hieroglyphic paintings the feats of their gods and heroes but to make objects for religious oblations in order to adorn the funeral piles of the temples, and even dresses.

It remains for us to state that the colouring matters employed in paper and cloth painting were extracted by the ancient Mexicans from various vegetable and mineral substances abounding on their vast territory. And they were also masters, masters by their attention and perseverance, of this primitive art, efficacious auxiliary of their History.

In sight of the possible expansion of work and of social wealth the demand of the higher classes was growing and the industrial products, although always directed through narrow channels, were gradually attaining the other groups, that turned to profit the crumbs dropped from the feasts of the powerful. In this manner, that society was able to maintain herself and progress, to persist and increase, to constitute, in one word, a civilisation which the characters of the Castilian Conquest were to modify essentially changing, not, of course, the constitutive elements of the medium and the race, but the orientations and the development, the steerage and the finalities.



Loom and cotton tissues of the Mayas

**State of the industry at the arrival of the Spaniards.**—The Extremadura captain gives quite clear an idea of the degree of the exploitation of the country's wealth in his letters to emperor Charles V. His description of the market of Mexico, giving notice of all the productions concurring there, constitutes a revelation about this matter.

Might the conquerors, wishing to exalt the magnitude of their conquest, as a Mexican historian thinks, transgress the limits of truth and exaggerate the situation of the submitted peoples beyond the boundaries of reality?

To bear out their narrations there is something more than written words; there are objects, there are samples of indigenous work. The list of the curious things sent by Cortés to the Spanish monarch is not a mere affirmation of an exuberant fancy. There we behold the components of a civilisation, there we see the resultants of an organised society.

That the conditions of that work did not allow an equitable dealing out, a complete diffusion of the elements of that civilisation; that circulation did not reach all the cells of the organism and that in-

dustrial exertion was limited by the restraints imposed by a system of inequalities and privileges, are indisputable facts.

Those groups we have stated were missing solidarities, they were wanting union; the aggregate lacked spontaneous self-movement, its motions being imposed by force; it was a law of obedience, and not a voluntary act.

But did the Castilian conquerors give labour other impulses, mark production other channels, did they widen consumption?

The new directing classes could not plant another system but the then reigning one, nor imagine other means of exploitation than the existing ones, nor find inspirations in other ideas than the dominant ones. Criticism gets blunt on this plate which sends back all the weapons darted against it: Progress is the product of a long gestation showing irremediable convulsions, necessary sufferings. Painful stages of an august apotheosis.

## CHAPTER III

### THE COLONIAL MISTAKE

CONCEPTION OF A COLONY. THE SYSTEM: PROHIBITIONS AND PERSECUTIONS.  
COLONY AND MOTHER COUNTRY; IRRADIATION OF THE INDUSTRIES. PRIVILEGES AND MONOPOLIES;  
SOLE TRADE AND EXCISE. INDUSTRIAL EVOLUTION DURING THE CONQUEST AND THE VICEROYDOM.  
THE GOVERNMENT OF NEW SPAIN AND ECONOMICAL DEVELOPMENT; THE CHURCH  
AND INDUSTRY. FOUNDATIONS OF INDEPENDENCE. SUMMING UP

THE colonial mistake was not of one people; it was of an epoch. The ideas underlying it start from a principle accepted by all the countries of conquering Europe: the unappealable exploitation of the new territories to the profit of the mother country. This was a necessity and a justice according to the criterion of those times.

The colony was destined to procure the resources indispensable to cover the expenses of the colonising State being at the same time for this a compulsory consumption market.

Revilla Gígido wrote in his *Instructions* for his successor: «It must be borne in mind that this is a colony that must depend on its mother country, Spain, and must correspond to her with some utilities for the benefits it receives from her protection and so it needs much prudence to combine this dependency and to render the interest mutual and reciprocal and this would cease in the moment there was no longer any need here of European manufactures and fruits.»

Not different was the policy which, resembling Spain's, was observed by the countries of colonising Europe: the monopoly of the metropolitan industry, the limitations to the exploitation of the occupied territories, the privileges, the persecution, the means employed.

Holland terminatively prohibits the cultivation of spice-trees in her Oceanian possessions restraining it to some island over which it is easy for her to exercise a careful vigilance; Portugal, by severe penalties hinders the diamond mines of Brazil to be exploited by any other enterprise than the privileged one; France raises obstinate obstacles against the abundant fisheries of Canada and even England, so large in granting liberties of a social and political order, shows herself inflexible in economical matters. At the beginning of the XVIII century lord Chatham said: «The English colonies have no right to make one sole spur.»

A false conception about public wealth had given rise to the *mercantile system* as the only conducive

to the prosperity of the States. In virtue of this formula one country obtains utilities only in prejudice of another. Commerce was a war as the state wherein those peoples lived, was a war.

The *balance of trade* marks one year after another the gainings realised by every nation; when the value of the merchandises sent to foreign countries exceeds the value of goods received from those countries, the nation gains a profit which is settled in metallic species. Gold and silver were the only riches and hence the immoderate strife to reach those fountains. The fable of the *golden fleece* is reproduced on the new continent; it determines for Europe the loss of her colonial dominions.

An economical error detained the evolution of the colonies which, arriving at a certain period of their growth, felt with the sting of new necessities the possibility of obtaining the elements to satisfy them. The emancipation was an impulsion tending at the same time as to the public liberties to the expansion of commerce and industry troubled by a long although perhaps explainable ignorance of the forces leading humanity towards progress.

**The system.**—The gravest blame that may be raised against the Castilian conquerors first and then against the colonial government is not to have respected one sole manifestation of economical life of those they met with in the conquered land. The new directing groups wanted to efface every track of the aboriginal civilisation; to substitute one system of exploitation by another without turning to account any of the materials left by the undone empire of the Meshica.

There existed,—we shall prove it in the part of this work destined to show the evolution of Public Finance,—a well established fiscal system; there was apparent, we have already seen, a pretty well defined industrial organisation; and, within the restraint marked by the character of that society, all the known natural products were utilised on behalf of common welfare.

The work of Conquest was demolishing: it repudiated those materials, it destroyed those elements and toiled restlessly to suppress many of those products. Such were the inevitable consequences of the new economico-administrative program. However, this program was the more lamentable, because the new colony was founded in a country prepared for evolutionist progress, offering not only an extensively cultivated territory but a population initiated in industrial labour, a human group ready for a vaster development of activity.

It would have been easy, indeed, by a careful study of the medium, to infer the advantages that would have been obtained in Mexico through the development of the already existing industries and the introduction of those figuring on the conquering civilisation's catalogue of the similar ones of the mother country. It sufficed to consider the natural surcharge of freight which the structure of the soil laid on the goods imported into the colony (the freight from Veracruz to Mexico was taxed in 1531 at the rate of *one peso* an *arroba* [about two stones]) to turn to profit this circumstance on behalf of the colonists, favouring the creation of proper industries in New Spain.

They did not do so and the colonial system began to be enacted in all its strict rigidity.

They hindered by all means the exploitation of the agricultural products cultivated in the Peninsula; they applied drags to the establishment of any industry that might provoke a competition; they ordered



Toltec gold ring



the vine and the olive to be pulled out; they persecuted the breeding of the silk worm, the cultivation of flax and hemp; they monopolised the manufacture of tobacco and they laid heavy taxes on all the substances and elaborations that did not underlie the prohibition system.

The exigencies of the mother country industrials were sufficient motives to enact measures of the expressed nature, exhausting at once currents of nascent prosperity, destroying under the blow of a law, abundant elements of general welfare. Thus the reclamations of the Spanish silk tissue manufacturers gave rise to the persecution of the cultivation of the mulberry-tree and of any kind of plants appropriate to be food for silkworms. And the royal decree did not stop there but it persecuted the looms destined to transform that raw material establishing severe penalties against the subjects meddling in this industry.

There was no other cause for the suppression of the intercolonial traffic of Mexico with Perú where the embryonic textile industries established in New Spain found a large market for consumption.

Certainly that market was created in virtue of the colonial system since that viceroydom, being reduced to get provided with the products coming from the mother country every two or three years, necessarily was obliged, having no own industry, to have recourse to the manufactures Mexico was able to supply. Be this at it may, the prohibition of that commerce ruined nearly completely the formerly flourishing *mills* that spread from Puebla to Cholula and gave that zone a great activity.

The system, in one word, favoured all the peninsular interests, serious or ridiculous, sound or inconsistent, not caring for those of the colony which, like a satellite, only reflected the light transmitted to it from a far planet.

To compensate somehow the damages sown by the colonial policy with a prodigal hand the Spaniards might search for other channels through which wealth might run; they could procure the development of agriculture, trying irrigation works like those realised by the trabs on the Iberian soil some centuries before; they could favour the circulation of the products opening a larger number of roads, as the Romans had done in Spain; they could offer cheap goods for the needs of the conquered land.

But the civilisation brought by the Spaniards was leaning fundamentally on two facts: their valour and their religion. The *Crucifix* and the *Sword* were their emblems. They came out of a hard war and the warrior only sees one element of wealth: the booty. And this is also what they saw in the countries they succeeded in mastering.

Their error, already stated,—an error which science needed more than two centuries after the conquest to clear up,—pulled them towards the exploitation of the wealth acknowledged as the only one. And so mining became the mother industry of the colony. A mother industry stunned, hand-cuffed by the same irremediable system that characterised Spanish dominion.

There was another product to be exploited: man, and to exploit him the conquerors undertook with their habitual energy.

The new masters met with a malleable social mass, habituated to the yoke, submissive to servitude; thereof they availed themselves as of something more than a beast, as of something less than an engine. The ass regenerated the Indian, *el Nigromante* has said; he did not quite regenerate him: it was the *thing*, it was the instrument, it was the animal of carriage, of transport.

Snatched from his retreat, marked with an iron brand, he is confined to the subterranean task; there he dies by heaps, whitening the earth with his bones; it is not possible to pass beyond the mouth of a mine «but stepping over dead men or over bones,» Motolinia writes.

And the conqueror is not satisfied with physically depressing the Indigene, he also endeavours to depress him mentally, a law prohibiting to teach him certain crafts and even to work before him, as other laws fix the weight of the burden he may carry, the distance he must walk and the salary he must be paid for his work.

Spanish domination endeavoured to preserve itself by maintaining the submitted classes in a perpetual state of tutelage.

Compulsory was the labourer's task, not only in public service but also in industrial work: the

*mills* were places of suffering that wrested long lamentations out of pious Friar Hieronymus de Mendieta's breast.

Still at the end of the viceroydom when the system was already sweetening by little and little, baron Humboldt complains the ill treatment given the men in the workshops: «Free men, Indians and coloured men, are confounded with convicts whom justice distributes among the manufactories to make them work for daily wages. The ones and the others are half naked, covered with rags, lean and disfigured, every workshop rather seems a dark jail: the doors, being double, are constantly shut and the work people are not allowed to leave the house; those who are married, may see their family only on Sundays. All are irremissibly punished if they commit the slightest fault against the established order of the manufactory.»

Perhaps one of the causes determining the conspiracy against viceroydom was the visit made by corregidor Dominguez, by an express order of Iturrigaray, to wool *mills* in which,—an historian nowadays suspicious in the matter in view of his apparent sympathy for the colonial government, Luke Alaman, says,—«those who entered to work suffered servitude, selling their liberty for a money advance and remaining in prison like slaves until they had paid that sum.»

Alcohol completed the work of ill treatment. The American indigene has been annihilated by the spirituous drinks whereof the exploiters of men made an instrument of servitude. So says Clavijero, so says father Betanzos, so says the author of the *Political essay on New Spain* himself: «The Querétaro manufacturers practise the same stratagem employed by the wool mill owners of Quito and which is used on the farms where, slaves being wanting, labourers are very scarce. They choose among the indigenes those who are most wretched, but who show a greater aptitude for work; they advance them a small sum of money which the Indian fond of intoxication, spends in a few days; thus, constituted a debtor to his master, he is shut up in the workshop under the pretext of working to pay off his debt.» Even to-day, alcoholism continues being the principal factor of the abjection of this race and of its traditional prostration.

Amid so much gloom some gay rays of light come to set fugitive resplendences in some remote corner: the Laws of Indies issued with an infinitely misericordious spirit and wherein a vague desire is floating of redeeming those who suffer.

Those laws had a grave defect: that of not having been enacted, that of ever remaining unfulfilled.

The government of the Mother country vainly endeavoured to elaborate measures of protection and shelter in favour of the oppressed groups; those measures always found an unsurmountable obstacle in the men interested in their transgression. They were opposed by the *cazique*, they were opposed by the commendator, they were opposed by all the spoilers who reckoned to make the conquered soil their own patrimony without any deviation or restriction.

Frail leaves were the most humane decrees, a historian remarks, when the person charged to get them fulfilled enjoyed the privilege, if they prejudiced his interests, to reduce them to dead letter by tracing on their margin the typical formula of legal disownment: *Obedecase y no se cumpla* (let it be obeyed and not performed).

However, the highest barrier the laws were meeting was raised by the physical medium itself; it was an irremediable consequence of the spacious territorial extent that rendered illusory the efficaciousness of any body of laws. It was useless to make people acquainted with the Royal decrees under the usual formulas from the capital of the colony, if the mandarins of the remote provinces did not practically carry them through. The force irradiated from the centre became dispersed long before reaching the far distant periphery.

And so the subjugators oppression was continued, so the feuds crystallised, so that link was undone which in the last times of the Meshica civilisation was beginning to show its outlines at the horizon.

The colonial error caused the interests of New Spain enormous lesions drowning industries that were on their way of development, hindering others apt to be introduced into the country and lowering the

energy of the working classes. But was it, in exchange, more beneficial for the interests of the mother country?

**The Colony and the Mother country.**—The system was a two-edged sword and if with one side it stroked the Colony's prosperity deep wounds, on the other it opened large breaches in the mother country's wealth.

At the beginning of the XVI century when Ferdinand Cortés and his companions set foot on Mexican ground, Spain was occupying an important place in industrial Europe: at the Segovia wool mills there

were constantly *thirty thousand* operatives working: at Sevilla they counted *six thousand* silk looms and one *hundred thirty thousand* workmen found an easy occupation in that Guadalquivir emporium.

The first blow,—may be the most hitting one,—against its industrial and agricultural development was the expulsion of the Judaic people first and then of the Moorish one, who fleeing from the Inquisitions kindled stakes carried away with them their rare laboriousness, their indefatigable perseverance and their tenacious energy which have given the former of these families, amid the persecutions that have harassed it, invincible qualities of resistance.

Then the maritime wars came, the great struggle on the waves. And there appeared the corsair who engendered the pirate: both formed the smuggler protected by the hostile countries.

Fraud annulled a good deal of the colonial system's effects; the goods of other nations came to compete with those of the mother country; the peninsula's industry entered on an agonising decline and when the XVIII century began, Spain was but a bridge wherever the manufactures of the other European States passed before taking their way to the Colony.

Meanwhile, gold and silver, the great riches only served to sustain the war expenses or they too passed that bridge in order to reach other peoples.



Cholula vase

At the sight of so disconsoling results and urged by necessity Spain began to loosen the ties which oppressed the colonies: she entered into compromises, she made concessions. The *Ordinance of free Commerce* suppressing the fleets, inaugurated the new period and if the kingdom had got a continuer of Charles III, perhaps the Independence movement would have appeared much later on the pages of the national history.

The fleet system had not only caused profound prejudices to commerce but also to the industry of New Spain that received from the mother country the indispensable materials for elaboration. In this way it happened that in the space of time comprised between the years 1590-1594 during which no fleet could come, the scarcity of quicksilver became so great that the exploitation of a large number of mines must be stopped.

And notwithstanding, so many blunders together were not enough to destroy the industrial germs that had come up in the colony.

The manufacture of tissues, combated and narrowed in, succeeded in taking root because of the exaggerations of the system rendering the products of the mother country extremely dear. Monopoly and pri-

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State of Mexico.—Tlalnepantla "San Ildefonso"

MANUFACTORY FOR WOOLEN GOODS









vileged had, indeed, for an inevitable consequence, the elevation of prices and sheltered by them this industry was able to resist the obstinate attacks it was a victim of. The cultivation of flax and hemp was prohibited, to be sure, and that of cotton troubled; but against all these dispositions once more and always the medium opposed rendering the verification of the fraud impossible.

The rudimentary processes themselves, employed by the indigenous worker, hindered the investigations. Not needing complicated instruments, availing himself of his own sowings, the operative pursues his domestic task and hidden in the back ground of the *jacal* he elaborates his garments. How was it possible to pursue this swarm disseminated over the vast extent of the territory, sheltered by all the accidents of the ground, when to realise such an undertaking you do not dispose of roads nor men nor resources to defray the indispensable expenditures?

It was not possible for the government of the mother country to narrow this labour nor did it succeed in obtaining that the similar product of Spain covered the consumption of the lower classes. So-



Toltec column

omething more decisive and urging than an altruistic feeling, an economical necessity,—founded on the scanty power of acquisition of the indigenous race,—freed this group from the industrial dependency on the Mother country. The textile industry becomes then a colonial one and leaves the field open for the manufacture of ordinary tissues.

The typical example, however, of resistance may be seen in the mining industry which having got a special place in this work we abstain from studying during that and other periods of supreme suffering. Neither the narrow legislation that circumscribed it nor the constant troubles that hampered it were enough to kill the *hen of the golden eggs*.

Bartholomew de Medina's discovery certainly came to favour mining, but the Government of Spain hastened to undo this advantage by the quicksilver monopoly. Vain attempts: the subterranean industry overcame this new obstacle and in open struggle against the forces that opposed it, it contrived to live and develop.

Sticking to this stout stem the gold and silver trade came to flourish in the colonial epoch in spite of the clog put on it by the Ordinance about mining work (1527) containing the provision that no miner «dare to get made or to make any jewel of gold or gold plate to the Indian goldsmiths of this New Spain, now or at any time, under penalty of the loss of all his property to H. M.'s Chamber and perpetual banishment from this New Spain.» The manufacture of vases, church ornaments and plate occupied a large number of operatives at the end of the xviii and beginning of the xix century. In the five years from 1798 to 1802 the declared quantity of precious metals destined for goldsmith works ascended to 1.926 marks of gold and 134.024 of silver.



Similar impediments were to be surmounted by the manufacture of coin,—also an industry after all,—for the load of the royalty was a *proportional impost* whose quota augmented at the rate the volume of the production was larger. In spite thereof the Mexico Mint, at the end of the XVIII century, gave occupation to *four hundred* operatives and Humboldt whom we cannot resist the temptation to invoke once more, remarks that all the silver yielded at those times by the mines of Europe hardly was sufficient to procure that establishment a *fortnight's* work. The quantity of ready money then manufactured was thrice that produced by the sixteen Mints at work in France. The value of the gold and silver pieces coined from the year 1690, since when there exist certain statements, until 1822, when the viceregal government ceased to exist,—taking into account the relation existing between the two metals in that period,—was of 1,674,000,000 pesos. That mighty stream set in motion one of the most interesting and most forgotten, too, labours of the nation's industrial potency.

Nor was the exclusive sale of tobacco able to eliminate an industry that was to strike deep roots in the national soil. In 1771, the manufactories throughout the viceroydom supplied occupation even for *twelve thousand* operatives (Marquis de Sonora's report). In 1802, the value of the elaborated tobacco amounted to \$ 7,686,834; the officers' salaries to \$ 794,586; the manufacturing expenses to \$ 1,285,199 and the real profit of the Crown by the sale of the tobacco to \$ 4,092,962. That is to say, the charge represented *fifty three* per cent of the value of the product, a quantity nearly equal to twice the cost of production. Thus it may be conceived that the utilities yielded by the exclusive sale (reckoned to be more than one *hundred thirty* per cent of the invested capital) amounted to \$ 123,808,685 during the thirty five years it was in force.

In this way the industries struggled, in this way they outlasted in front of the fiscal persecution delirium; thus with slow exertion they were rising, profiting of all favourable conditions, pushed on by the very wars the mother country had to sustain against other European States rendering often impossible to provide the colony.

In confirmation of this last assertion we may cite the report rendered by viceroy Azanza, in 1800, about the increase of spinning mills in New Spain since the year 1796 in which the struggle of the mother country with England was renewed: in Oaxaca where before the former of the two dates there were *five hundred* looms, the number increased to *eight hundred*. In Puebla the business in this industry represented the sum of eight million pesos a year, a quantity never before attained; the manufactories of Querétaro supplied with cloth the whole American army; and similar results were registered at Guadalupe, Valladolid, San Juan Teotihuacan, Otumba, Chalco, Cadereita, Tenancingo and Chilapa, centres of importance in this work.

As we have seen, the colonial industries were unable to vanquish, but they persisted, and this was a great deal, against the extreme hardness of the system.

**Privileges and monopolies.—Exclusive sale and excise.**—Spoliation branches out into a dense net of concessions of privilege, into a close efflorescence of acts of monopoly.

A privilege was that granted in favour of the contracting houses of Cadiz and Sevilla, the only ones authorised to sustain the traffic between both Spains; a monopoly resulted to be the distribution of the quick-silver sendings effectuated with rapacious partiality by the royal officers; on monopolies and privileges the Consulates were resting as, in practice, the Mining Bank's decisions constituted privileges and monopolies, these institutions being useful only, the former, to procure the perpetuation of the circulating errors (at the Cadiz Congress, the Mexico Consulate declares that free commerce is contrary to the catholic religion) and the latter, to sustain the system of unequalness that was reigning in the exploitations of public wealth.

Occasionally the concession becomes more odious because it benefits directly and ostensibly a particular individual who cannot show in his excuse, in the way of a factitious allegation, the interest of some group or guild. So it happened with the permission of the Spanish Crown to Michael Lopez, at the end of the XVIII century, to do commerce in *neutral* ships, an illegal practice according to the legislation

of that epoch, that wrang loud protests out of the interested whose voices died away on the Court's urging need of getting money although it fell, as afterwards other governments have fallen, into the sharp claws of agio. Anticipations as history often makes.

The supply of raw materials being restrained, consumption limited to the less consuming classes, labour rebased, fiscal action came to clinch the chain that subjected industry, monopoly of sale and excise.

The monopoly of sale is not precisely a consequence of the conception of the nature of the right of possession of the mother country over the colony; it is, above all, an expedient created with the aim to supply means for the expenditures of the Crown. Indeed, the whole financial system rests on that base. Therefore, a historian remarks, in the xvi and xvii centuries, the quantity of the monopolised products was not so great as in the xviii in which the financial difficulties of Spain reached a painful height. The monopolisation of quicksilver was, perhaps, not so much due to the wish to protect the Spanish producers as to that of maintaining a rent yielding a fat fiscal revenue. No matter that the surveyor Joseph de Galvez, on the faith of his honest word, declared that the lowering of the quicksilver price (it was even quoted at *one hundred and ten pesos* a cwt.), «a grace granted in favour of mining by the King's incomparable piety,» had notably increased the silver production in New Spain; as long as the monopolisation would yield a sum worthy of account in the totality of fiscal income, the abolition of this monopoly of the State could not be expected.



Meshica feather trimmer, joiner, silvermith, lapidary and painter  
(From the Mendoza Codex)

The same thing happens with the monopolisation of tobacco whose utilities have been stated in anterior paragraphs. Here the damage results more perceptible, because it affects an industry more ramified in the country which they wished to restrain by reducing the seeds which procured resources to a multitude of labourers who tumultuously rose against the irritating official privilege at some places of the viceroydom.

Tenacious were the exertions displayed by the mentioned surveyor,—the actual creator of the finance of New Spain,—to embank monopoly that met a constantly renewed obstacle in fraud, the regulator of the colony's industrial expansion. How can we help considering it so knowing that the quantity of gun powder sent from the kingdom for the whole continent at the beginning of the xix century did not exceed *three to four thousand cwts* a year whereas *La Valenciana* mine alone consumed more than *nineteen thousand* during the same space of time? We must bless the illegal form or resolutely disown the first manifestations of our national progress.

Not less diligent the marquis of Sonora showed himself in the arrangement of the exploitation of salt, also monopolised, seeing himself compelled, however, to free from the charge determined districts where the lease system and the abuses of the mayors brought enormous damage not only to the interests of a formerly flourishing industry but to those of the Spanish Crown herself. In order to get an idea of the weight supported by the saline industry it suffices to know that the load of the product being officially bought at *six reales* copper, the monopoly sold it at *fourteen*.

And other products were monopolised, among them the tanned hides, at the instance of the Spanish shoe manufacturers against whom the tanners of the viceroydom vainly appealed. There could not be anything more scrupulous than the processes to regulate the cordwain sales wherein an inspector, a notary public and a constable intervened besides the officers charged to keep a register of *every hide* and of the names of sellers and purchasers. Ingeniousness and cruelty were ransacked to turn fisc a mace and a screw to blow and penetrate into all the manifestations of industrial exertion. And what monopoly left unnailed, was crucified by excise, «one of the justest and most recommendable rights of our Castile Kings whom God wished to aggrandise with these rich dominions of both Americas.»

Excise transplanted from the mother country to the colony in 1571-1573, amid vehement protests of the merchants, did not prejudice only commerce; it prejudiced industry, since the charge befell «every kind of merchandise, fruit and farm produce» both of Spain and of the Viceroydom. The quote was increasing at the rate of the kingdom's needs and the lease system made this tax much the more odious, the deeper the roots were it struck into the country, always in fight with national labour, raising barriers between district and district, creating absurd local antagonisms, disaggregating, in virtue of powerful economical forces, elements once declared closely aggregated by the institutions.

Having described the processes, let us now pass to trace the forms of their historical development.

**Industrial evolution during the Conquest and the Viceroydom.**—In the space of time comprised between the rudimentary administrative organisation imposed by Cortés and the acting of the first Audiencia, the conquerors did not think, nor were they able to think, of anything else than of securing the means of attack and defence. In the new society the efficient causes of industry retrocede several centuries. The combatants needed renew their war material; hence the jeopardous ascension to the summit of Popocatepetl, in search of brimstone wherewith to elaborate powder; and hence also the sacrifices made to obtain at any price in the Antilles the iron wherewith to cast cannon. Like in the period of the primitive aboriginal aggregations the main industries are those of conservation, those of war. And resistance having been secured, all pursuits were directed towards the golden dream, to undermine the hills, to strike the rocks, to stir the ground! And out comes the mining industry, with its ires and its frenzies, its infamies and its rewards.

This was all. No, it was not all; we must be just. The conqueror tempered his hardness and sowed plants not known before, in the pauses left by mine digging: the vine, the mulberry-tree, the apple-tree, and also the sugar cane, material for an industry already national, already viable, already our own.

Much was done by those men, too much perhaps, in their constant struggle against the forces that were hostile to them: nature and man. And behind the ephemeral government of the Audiencias concerning which we have to state, as interesting our study, the dispositions of the second of them aiming to propagate the cultivation of hemp and flax, there came the Viceroydom, combated by the adverse elements: the Church, the Audiencia, all the spoliators of toil and soil. «The Viceroy was the King,» but a king of limited authority, always prepared for compromise, ready to submit the needs of the Colony to the conveniences of politics. And only thus it was able to keep up.

There were cynical and rapacious viceroys; there were humane and honest ones; these reached their high post in virtue of their own merits; others owed it to favour and intrigue. Let the balance be made up; as for us, let us state the facts.

The first men to whom the administrative management of New Spain was commended came to the colony full of noble ardour to favour the subjects to the Spanish crown and to forward the development of welfare in the new dominions. (See the *Political evolution*, in extract, in the first volume of this work).

Thus he who begins the series, Antony de Mendoza, does not limit himself to promulgating the ordinances wherewith the king of Spain provides the good treatment of the Indians, but within the range of his faculties he issues dispositions favourable for the interests of New Spain; he recommends and fosters the cultivation of the mulberry-tree and the rearing of silk worms; he promotes the coinage of

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INDUSTRY

THE VERACRUZ INDUSTRIAL COMPANY

**General view of Santa Rosa mills**

(COTTON SPINNING AND WEAVING)

NECOXTLA, STATE OF VERACRUZ









money, establishes printing,—concordantly with friar John de Zumárraga,—and introduces the industry of wool weaving favoured by the importation of merino sheep into the colony.

Those who follow him, till the end of Philip's II reign, are distinguished by their love for the suffering indigenous race and their integrity in firmly opposing the repeted pretension of the extortioners. The first Velasco grants liberty to more than one hundred and fifty thousand slaves amid the stormy protests of the masters; the second orders the cloth mills to be opened which Mendoza had founded and the Spanish industrials had succeeded in paralysing soon after they had been inaugurated. At the end of the XVI century the colony seems on the way towards a definitive organisation: public wealth stirred in its main springs, work enchanneled, mining, agriculture, industry in constant advancement, overcoming the not absolutely unsurmountable hindrances opposed by the system at the beginning.

The amalgamation process had given the working of the silver mines a strong impulse; multiplying the exploitation farms around the mining centres; metallurgic industry grew extraordinarily and at the same rate the labouring of the fields.

Gold and silver were not the only products the colony procures for the mother country: cochineal, indigo, dye wood, hides, even sugar figured on the list of export from New Spain. As an industrial exhibition the mills at Puebla and Antequera could show a good deal of silk tissue elaborated with raw material coming from Asian markets; the cloth works consumed, in 1580, *twelve thousand* arrobas (twenty four thousand stones) of wool obtained in the colony.

The paper industry known by the Meshica had finally disappeared; but, in exchange,—and this is a fact marking the character of a society,—in 1582, according to Mr. García Icazbalceta, *nine thousand dozens* of playing cards were made at Mexico «these being more esteemed than those brought from Spain.»

Concerning the silk industry, it is really worth while to consecrate some lines to its development during that period.

Whether the Meshica were acquainted or not with the worm is still a matter of discussion, but the fact is the mulberry tree figures among the plants introduced into New Spain by the Captain of the Conquest. The new industry was first tried in the Valley of Mexico (there is the Morales estate as an irrefutable testimony) and afterwards it spread throughout the country reaching the most remote districts, even Yucatan where Friar Alonso Ponce met (1588) a farm with many mulberries where silk was made although not in a considerable quantity.

Great must have been the advantages the conquerors found in the colony for the introduction of sericulture when we see them eagerly occupied in that task amid the gold fever they were possessed of. Not to speak of more than one exertion we may refer to the contract (1537) between a Martin Cortés (none of Ferdinand's sons, to be sure) and the viceregal government on behalf of the fomentation of that industry in the provinces of Huejotzingo, Cholula and Tlaxcala. Mr. García Icazbalceta thinks the name of *Tepeji de la Seda*, applied to the village where the first trials were made, gives an idea of the fulfilment of that contract very soon followed by individual initiatives.

In 1540-1541, father Motolinia gives testimony of the progress of sericultural labour at Mixteca. «It is, he says, a much peopled and rich land where there are gold and silver mines and many and very good mulberry trees wherefore here the cultivation of silk was first begun; and although in this New Spain it is not long this crop was commenced, they say in this year they will collect more than *fifteen thousand* pounds of silk.» The same Motolinia states at that epoch there were persons who cropped *three-hundred, fourhundred* and even *thousand* pounds of silk a year.

The centre of the silk industry rooted in the capital of the viceroydom where they actively practised the manufacture of tissues, satins, velvets and taffeties. «This silk stuff is as good as that of Spain,—the Englishman Henry Hawks says who visited the colony about that time,—only the colours are not so perfect, but the black ones are better than in Spain.»

What were the causes that determined the decline at first and later on the disappearance of this industry? Carelessness in the cultivation, the suspension of commerce between Mexico and Peru where the



Mexican silks had an open market and later on the suppression of the mills choked still in germ a highly democratic work, whose practice would have been and still would be to-day, an admirable economical teaching for a people governed by institutions of free men claiming the active and productive cooperation of every one of their associates.

Such was the picture Mexican industry displayed at the end of the xvi century.

Then the xvii century comes and all things become decomposed, deranged and disjointed: decay begins with the last monarchs of the house of Austria during whose reign Spain loses her maritime power, blood gushes out bubbling from her body pierced like a sieve in the combats, she falls into bankruptcy and her economical blunders are carried to the extreme.

Viceroyal government struggles obstinately, briskly, desperately against all the calamities afflicting it during the century: hunger, inundations; combats on land against rebel tribes, and on sea against the corsairs who dare dispute the prey on firm ground, in bold landings. The mother country grows more covetous, the interests of the privileged more exacting; the Spanish manufacturers claim measures of protection freeing them from a dangerous competition; the archbishop and viceroy Friar Payo Enriquez promulgates the Royal decree prohibiting the cultivation of mulberries. The suspension of the traffic with Peru is decreed and that with the Philippines is made more difficult; more gold and more silver is begged to throw them into the bottomless ton of the peninsular wars.

Amid so many disasters a new power consolidates and strengthens to exercise a vigorous influence on the colony's industrial work and development: the Church. The first missionaries, the friends of the Indians, their defenders and teachers procure to raise those hopeless people from their traditional prostration, to redeem their spirit by the christian faith, to depurate their toil by an ampler labour, more in consonance with the needs of the new fatherland.

The first seminary of New Spain, under the direction of friar Peter de Gante, of immortal memory, is not a mere school; it is something more than a chair of religious teaching; it is at the same time an industrial workshop where the indigenes are initiated in the trades and arts of the conquering civilisation, an initiation which, we shall soon have to state, met deplorable stumbling stones.

Later on the Church grows rich, becomes the first proprietor of immovable goods; the splendour of worship imposes from day to day greater expenses and at the shade of the convents and temples there is a development of the industries of wax, plate and embroidery. Labour finds this outlet and this stimulus. At last these capitals enter into movement, creating a kind of *forwarding bank* whose services have been greatly exalted; but they charge upon urban and rural property, engross it, absorb it in the covetous insurance of the *dead hand*. And those are not the sole evils the Church has been if not the direct fomenter, at least an active and complaisant cooperator: she increases the indigene's traditional laziness, she annuls him, she sows fear into his conscience, deprives him of aspirations, she causes in his abated spirit to rise the fondness for misery, and suggests him the idea that there is no salvation but in heaven.

The last link of that chain is clinched by the Holy Office that comes to darken souls in order to save them, to enslave wills in order to make them attain eternal pardon. Who would dare to think of the wretched earthly things? who of the great forces of the life of the nations: production, welfare, industries? «The essential thing was not to weave linen but to kill heretics» Menendez Pelayo has said. They were conscientiously killed, they were killed at wholesale and if not their bodies, their spirits suffered indefatigable persecution.

The sinister Tribunal was a spy as well as a jury and penetrated wherever there was a clearness to be darkened; it penetrated into thought and cast to the stake all the materials that signified a knowledge and a progress; it calcined the idea, it calcined, too, the formulas that simplified human exertion. The book was its foe and with the revelations of the new philosophy they burnt the printed matter that pointed out new paths for the collective task, the instructions, the manuals teaching the technical processes of determined industries forbidden in New Spain. And many of those works, notwithstanding, came from

the peninsula where their circulation was free and large. What was a licit act in the Mother country, proved a nefarious sin in the colony.

And since we are speaking of books we must not let pass the opportunity to state the influence clergy had in the typographical industry, thanks to the diffusion of religious and mystical prints it took charge of. Mr. Garcia Icazbalceta and Lewis Gonzalez Obregon have written, the former an instructive monograph and an interesting chapter (Old Mexico, 1521-1821), the latter about the progress of printing during the viceroydom.

At the beginning (the first printing office was established at the end of 1536 or the beginning of 1537) the printers who came to Mexico enjoyed certain privileges during a determined lapse of time derogated afterwards by a Royal decree of 1558. That industry stumbled against an inconvenience which made itself



Panoramic view of Cadiz

felt in all epochs: the dearness of paper then coming from Spain; in 1677 some printing offices remained paralysed by this cause; a ream of paper came to cost as much as *thirty pesos* and many books were lost being sold for written paper. The volumes had generally the size of *folio*, *quarto* and *octavo*; Gothic characters were used until 1554 when Roman and Italic characters began to be employed; besides they made use of typographical embellishments and small vignettes that fomented the engraving industry in the country.

However, typography was locked up in an iron ring: the indigenous race's lack of instruction, the dearness of the product and later on the vigilance exercised in the printing offices in consequence of the privilege granted the Escorial monastery, weakened an industry which dependent on the needs of a superior education hindered by the colonial government could not flourish with liberty.

The Church disposed of another extortion instrument, besides those mentioned above: tithe, exacting it, like the oblation to the Aztec priest, from all the products of agriculture and industry; but it must be borne in mind that the work of the Meshica was less limited than that imposed by the colonial system. Therefore tithe was an infinitely heavier load than the gift to the sinister gods of the aboriginal religion.

Heavy was the sanction on which that charge was founded, for in certain cases the forgetful or morose were punished with the greater excommunication, a penalty much more feared by those spirits than any of those laid on by civil authority. And as for the amount of the charge, it is interesting to read the *Representation* of the proprietors of urban and rural estate to viceroy Iturrigaray, a document wherein it is stated that «with the maintenance of the clergy and worship of the parishes, with that of the religious communities of both sexes and with that of the judges and other ministers of justice, they being so many in number and so short the produce resulting from the tariff duties on so miserable a people, hence all the injustices and vexations arise dictated by an imperious necessity and all concurs to weaken and oppress agriculture and industry.»

The institution of the *guilds* had a religious character like that established in Spain, but still harder in its restrictions which had so disastrous an influence on the industrial labours. To form part of one of those groups it was necessary to pass through a series of examinations and proofs that hampered the best tempered work; but once within the guild there came the ordinances to restrain all with greater force: they established the form how the purchase of the raw materials and the sale of the manufactured must be effectuated; they pointed out the directions of the work, marking for every guild the labours it had a right to do and those it was forbidden to undertake. It was a cloud of minutiae, details, regulative trifles that enveloped production in an asphyxiating atmosphere. And every guild being placed under the shelter of a patron,—Saint Eligius was the tutelary dignity of the silversmiths, Saint Homobonus of the tailors, etc.,—under the influence of the religious idea work wearily dragged its painful tutelage.

To be sure, in the industrial organisation of the Meshica the corporations existed; but the corporation had over the guild the advantage that, in the former, work was not enslaved the workman being free to direct his labour, he was not obliged, as in the guild, to follow prefixed paths, a system that forcibly was to render production stagnant, shielded against any innovation bringing a progress. Mendieta, in his *Historia Eclesiástica Indiana*, makes us aware of all the precautions taken by the Spanish operatives occupied in the colony, to hide from the indigenes their tools and processes. Only the remarkable imitative faculties of that race and its proverbial astuteness were able to put them into possession of doings kept as inviolable secrets.

The Church did still more: she was the chief hindrance the propagation of the nascent scientific teachings met in New Spain. We must peruse the pamphlets of learned father Augustin Rivera,—especially *Los principios críticos sobre el virreinato* (The critical principles about the viceroydom);—we must read Humboldt, we must consult even Alaman to form us an idea of the obstinate tenaciousness displayed by the catholic clergy in order to maintain the minds isolated from knowledge that had the ways open in other countries.

Viceroyal education, father Rivera said, rendered theological agriculture, industry and commerce. It was, therefore, but natural it would not prepare men apt for the great exertions claimed by the economical struggle from all the human entities that compose a people.

But let us return to the historical march of the industrial evolution from which we have been slowly digressing while studying the influence exercised thereon by the Church.

The xvii century having ended under the bad auspices we have pointed out in anterior pages, the work of dissolution continues during the whole of the xviii, Spain causing to weigh still more heavily on her colonies the evils she was afflicted of. Exactions multiply and exchequer improves its processes. Until the reign of Charles III the edifice keeps on foot; with the monarchs succeeding him the downfall begins that was to bury under its ruins the Iberian domination in the Americas.

There was no lack of men of good faith, clear intelligence and righteous will at the head of the colonial government, surveyor Galvez and viceroy Revilla Gigedo rising above all; the former's *Report* and the latter's *Instruction* bequeathed to his successor deeply penetrate into the grave economical and political problems that were shaking that society. They ought to be read attentively; they also must be read between the lines.

VOLUME SECOND

INDUSTRY

STATE OF VERACRUZ

**Necoxtle.---Veracruz Industrial Company**

LOOM HALL OF SANTA ROSA MILL









Revilla Gígedo, studying the difficulties which the industries of the mother country had to overcome in order to vanquish the similar ones already rooted in New Spain, remarks that «the only means to destroy the manufactures of the colony is to make the same articles or other equivalent ones to come from Europe at lower prices.» But even so, the destruction of those industries would be impossible since «there are many persons who cannot occupy themselves in agriculture and much less in mining work requiring strength and forces and for them it is necessary to leave some kind of industry wherewith to subsist, for to hinder it the hardest penalties and the severest prohibitions will not suffice because the very necessity of subsisting compels men to contravene the same.»

The *Instruction* furnishes abundant statements about the state of the industries at the end of the xviii century. Besides mining, the manufacture of cotton and woolen tissues was, as we have seen, the most flourishing in the colony. There existed in Puebla *forty three* mills of cloth, blankets, shirtings and other cotton tissues; in the province of Oaxaca *six hundred* looms mostly destined to make cloaks of the same fibre; in that of Valladolid *thirty four* manufactories of blankets and shirting and in that of Guanajuato a pretty considerable number of looms for similar elaborations. The prohibition of the rearing of silk worms had been repealed, the cultivation of hemp and flax had been declared free and even forwarded. Favoured by the high price reached by this last product in consequence of the wars, it could momentarily realise some progress; tools and instructions were imported from Spain for the weaving of sail cloth and rigging; it was only a trial that left no tracks in colonial agriculture; very soon the indigenes persuaded that the sowing of Indian corn and beans offered them more positive advantages, abandoned the cultivation of those filaments. As for the rearing of silk worm, it was attempted to favour the same; but the project met serious impediments the gravest being the lack of public funds to begin anew.



Industrial centres.—Town of Querétaro

(From a photograph of Waite's)

The imported sugar industry, on the contrary, had stricken strong roots in the Mexican soil. The chief plantations of the cane were to be found, as they are now for a good deal, in the province of Veracruz, on the fertile fields surrounding Córdoba and Orizaba; in those of Puebla and Mexico, at Cuernavaca, on the plains of St. Gabriel; in that of Guanajuato (Celaya and Salvatierra) and in the provinces of Valladolid and Guadalajara. The production came to increase to such a degree that in the year 1790, more than 400,000 arrobas of sugar were exported through Veracruz. For the rest, the transport to the said haven, through large roadless extents, rendered the product so dear that only its high value which scientific progress has considerably reduced made possible an operation which to-day has disappeared from the tables of our international traffic.

The same result was not attained by the alcohol industry forbidden during a long time in order to favour the spirituous drinks that came from the mother country to satisfy the large demand of New Spain. The pulque industry grew, however, in spite of taxes and prohibitions; that liquor was a necessity and a bad habit for the oppressed mass of people; to pulque the indigene has recourse in order to complete his deficient food; to pulque he takes refuge in order to forget in a sickly sopor his sad abatement if it is not to awaken his sleeping ferociousness. The maguey plantations extended not only over the zones of the Central Tableland where to-day agave is cultivated, but as far as the province of Oaxaca;



the cheapness of the drink (five pints could be had for half a real) shows the development of an industry that in vain was loaded with heavy charges and threatened with terrible religious penalties. It was doomed to grow and it grew till to-day, becoming one of our most pungent social problems. The consumption of pulque was reckoned by viceroy Revilla Gigedo (1791) at *four millions* arrobas a year; the fiscal revenue at *eight hundred thousand* pesos annually.

In sum, the XVIII century came to end amid an afflictive economical situation, deeply reflected in the colonial industries. The XIX century which was to mark so violent changes in the history of the peoples of both sides of the Atlantic was dawning and the system in all its rigorousness continued in force. And, nevertheless, the moment was come when, not yet in a quite concrete form, but as a protest of perceptible uneasiness, an energetic aspiration, brooding of the first rebellion movement, was going to rise. Abad y Queipo gave notice of it in his *Representation to the First Regency*: «The Americas cannot be conserved any longer after the maxims of Philip II.» And longing for a change of program answering the aspirations of a society that began to awaken, he added: «Let there be an end for ever to the system of exclusive sale, monopoly and general inhibition that has been governing up to now and which has degraded the nation at the rate of its extension and progress, leaving it without agriculture, without arts, without industry, without a navy, without an army, without lights, without glory, without honour...»

The other European countries had granted their colonies franchises and liberties; the colony of puritans that afterwards was to be constituted into the United States of North-America, had just segregated from her mother country; in the pages of the *Encyclopædie* there were dissolved the primitiae of the new economical science; and although the Spanish government procured to maintain colonial thought enslaved, the clearness spreading from the new focus was so vivid that its rays succeeded in stealthily penetrating through the chinks which mind opened striking at the stone that pretended to bury it.

The propositions presented by the American delegates to the Cadiz Congress, contained a whole program of economical reforms,—commercial liberty, abolition of privileges,—and had not the legislators of that assembly reacted against their first thought, perhaps it would have been possible to choke, at least for a moment, the nascent sparks that provoked the fire doomed to burn the viceroydom. When, in 1818, Ferdinand VII invoked the Holy Alliance on behalf of a collective action of all the European States against the America insurgents, it was late; emancipation was already realised pushed on by the series of facts that hampered the growth of colonial wealth and the development of the welfare of its inhabitants.

Industry could advance but little in this last period of scarcely a quarter of a century, a good deal of which was consumed by the war for Independence. If we except mining and the works that lived at its shade like natural ramifications,—the trade of the gold and silver smiths and coining of money we have spoken of,—the viceroydom did not show any other serious industrial labour than the manufacture of wool and cotton cloth. Some figures will make us aware of the state of that industry during the mentioned period.

According to Lawrence Zavala, the most important manufactories existed (1809) in Puebla and Querétaro. In this town they consumed during a year, in 20 offices with 300 looms, *forty six thousand* arrobas of wool with which they elaborated *six thousand* pieces of cloth, 280 of serge, 200 of baise and 161 of frieze. The value of these products was reckoned at *six hundred thousand* pesos. They also consumed at Querétaro *two hundred thousand* pounds of cotton to make shirtings and cloaks. The cotton manufactories of the Province of Puebla, comprising the capital, Cholula, Tlaxcala and Huejotzingo, produced for *one million and a half* of pesos. Accepting the statements of the author of the *Political essay on New Spain*, in Puebla they counted more than 1,200 weavers and the value of the cotton cloth and the worsted tissues of the Province of Guadalajara exceeded *one million and a half* of pesos. The same illustrious scholar reckoned the value of the produce of the manufacturing industry at the epoch when he visited the country at *seven or eight million* pesos.

The product continued, however, being destined to cover the needs of the indigenous family; they were course ordinary stuff roughly dyed as if to attend badly and compulsorily the needs of beings doomed

to support in variable forms their social and economical inferiority. The upper classes continued providing themselves of the Spanish industry and of what other nations supplied by the intermediary of the mother country.

Woe and protest germinated amid those who deeply fathomed the economical problem; the indigene was dragged along by them, unconscious of his pains and hopeless of improvement; a mass of suffering, it only awakens to action when it fomented their secular hatred against their oppressors. Above, the dynamic factor of our nationality is working, the mestizo, with his atavian defects and his vicious education. Neither the one nor the other were prepared for the task that was to come after the Independence. We shall see later on.

**Summing up.**—Having examined all the elements functioning in this stage of the national economical evolution and the means employed to detain or to develop it, are we to persist in our first affirmation? Were the Castilian rulers able to procure the agricultural development attempting irrigation works like those realised by the Arabs in Spain centuries before? were they able to favour the circulation of the products opening a larger quantity of roads like the Romans had done in Spain? were they able, in one word, to prepare industrial progress encouraging the same and freeing it from clogs?

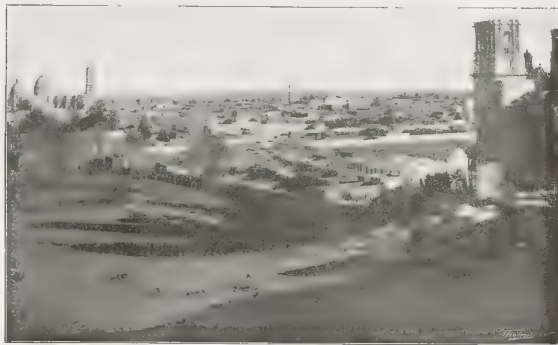
To offer this battle, to overcome the impediments thrust into this enterprise it would have been necessary to possess what Spain had not got: capitals. All the ready money went to defray the cost of the armed adventure, all the efforts were consumed by the epic prowess. Therefore the baron of Humboldt points out so many mines abandoned for want of the indispensable machinery to work them; therefore the large expenses that would have been necessary hindered the exploitation of the discovered deposits of quicksilver when their working was consented and forwarded.

Even supposing in the Iberian coloniser an education more favourable for the economical evolution of New Spain; even admitting him free from the colonial error, he would never have been able to gather the elements needful for that evolution.

Of course, we do not pretend to disculp the fault of the Spanish conquerors and their domination in America; the warlike character of that people, its defects of breeding, the unpardonable retardation to admit in her colonies ampler formulas of rule, make Spain one of the most inexpert as well as rudest mother countries. We all know that:

We also know that her paternalism practically proved to be an accomplished system of oppression.

The prohibitive laws had a protective character: they set obstacles to the introduction and manufacturing of intoxicating drinks, because their use injured the health of the Indians and with the same aim they hindered the cultivation of indigo; they restrained the establishment of mills with the aim to prevent the ill treatment of the workmen; they dictated instructions against garments and the wearing of silk in order to hinder an exaggerated luxury; but in reality,—history shows us,—there is no worse system of tyranny than that which pretends doing good annulling the liberty of men. According to this



Industrial centres. — State of Guanajuato. Leon  
*From a photograph of Waite's.*

criterion, Inquisition did well depriving the heretics of their lives in order to save their souls; and in the same way a good thing was done by the legislator who brought misery over a multitude of families when he prohibited the work of women and children in determined industries.

Viceroydom disappeared,—we have said,—on the day when a social group became conscious of the possibility to satisfy a larger number of necessities, although,—we also stated,—that group was not in aptitude to know and acquire the means of attending to that satisfaction. It has been a long and toilsome struggle during an anarchic period in which public wealth was to remain abated, stationary, unredeemed, while amidst the national convulsions, new forces formed that were to give consistency and energy to the Mexican nationality.

## CHAPTER IV

### ANARCHY

ELEMENTS FAVOURABLE TO ANARCHY. THE NEW NATIONALITY: SPOILIING GROUPS AND SPOILIATED GROUPS. ORIGINS OF MEXICAN PROHIBITIONISM. INDUSTRY AND REVOLUTIONS. THE FINANCE PROBLEM. FROM INDEPENDENCE TO REFORM: THE PROHIBITIONIST SYSTEM AND THE FORWARDING BANK. LUCAS ALAMAN AND MEXICAN INDUSTRY. THE REFORM WORK. FROM THE INTERVENTION TO THE RESTORATION OF THE REPUBLIC: ECONOMICAL FUNCTION OF THE INTERVENTION. THE EMPIRE'S PROGRAM. INFLUENCE OF THE AMERICAN INVASION AND THE FRENCH INTERVENTION ON INDUSTRIAL WORK. THE PROBLEM OF THE REPUBLIC.

**I**N the space of half a century constituting the formation stage,—from the independence of the former colony to the restoration of the Republic,—the country underwent two invasion wars, a great economical struggle (the Reform) and a series of civil contentions of antagonisms of group that prolong the nationalities infancy.

During this period social work remains stationary, the forces that animate it, ill led, the energies sterilised, the elements of prosperity cohesionless, the factors of collective activity in constant fight, the state of the minds misled, compassless, public wealth,—and its natural manifestations, industry and commerce,—subjected to a depressive subordination; the nationality on the point of shipwrecking on a sea of opposite currents, of getting pulverised by a fragmentation into unassimilable particles, into a feudalism of caziquedom converted into an anarchic power by the revolt.

The economical problem becomes more pungent, more painful; the supports that ought to sustain it,—capital, labour, initiative,—refuse to lend their help; the upper classes throw themselves on the infatuated bureaucratic work; the appetites awaken, the concupiscences become excited; from the presumed inexhaustible bottom of the new fatherland's wealth they hope to draw private fortunes; the privileges shock against one another the privileged fight, and the revolutionary action gets perpetuated sheltered by the physical medium that converts every peak into an unconquerable fortress and every cazique into a sovereign lord of the soil.

All the active elements show themselves adversaries of progress, all are openly hostile to it, all contribute to paralyse the productive forces: the civil contention with drawing energies from the general labour; the capitals shunning the struggle of competition, weaving with the threads of *agio* the net enveloping the public administrations in financial disasters; industry invoking absurd privileges, shielding itself behind funest monopolies; the circulating ideas, the prejudices, the isolation wherein the country lived during the first times.

It was the formation stage out of which the country was to come forth at the impulse of an unexpected fact which determining a common peril congregated the disunited germs, the disgregated social components that might, and ought to, constitute a solid State.

The Intervention made the national political unity; it stirred the minds, it agitated the economical materials. The Empire did not complete the work: being an inefficacious government, without support, without resources to destroy the obstacles opposing the creation of public wealth, without moral force, without the force of tradition, it must fall and it fell under the weight of bankruptcy and discredit. It left the way expedite. Evolution, however, did not begin but later on when the hindrances were destroyed which many years of perpetuated errors had heaped up against the development of the country.

**The new nationality.**—The emancipation movement was begun by the civilian group that was the thinking one; Independence was realised by the military group. This fact was full of meaning; it meant that henceforth his latter class was to have, and it actually had, a very active, a very terminative interference in the resolution of the problems that would arise in the new State.

The civilian class had been nourished in the French revolutionary doctrines; it was a demolishing nucleus, impregnated with abstract principles, inspirated in vague words, inaccurate notions, improvised programs. Proud of the new fatherland, affected with the delirium of persecution, explainable in a good deal by reiterated foreign aggressions, this group was to be the fountain of the restless crowd of politicians, *club* orators, journalists and juriconsults who have agitated the Republic during so long a time and among whom there sometimes arose a highminded, a clearsighted, an energetic man, a legislator, a patriot.

The military group, bold, valorous, little or not at all instructed, composed of audacious and ambitious men, without firm ideas, often without a criterion, entered into action only when it felt its privileges threatened. Then they took to *pronunciamiento* which offered the means to continue living on the national wealth.

There was still another spoliating class, another group of privileged people: the clergy, detainer of the collective fortune, that continued,—until after the Reform which marks a decisive change in the condition of these classes,—being the only rich, powerful and strong guild.

These two groups (militia and clergy) came sometimes to an understanding; then they were the two terrible jaws of an insatiable carnivorous animal.

These were the directors of the new society, those who were to bring into play the boasted elements of production. And their work was such that they soon dried up the fountains, exhausted the springs unable to fill the pits dug by parasitism. The three groups weighed heavily on public wealth; the civilian group, when it did not figure on the list of the budget, became revolutionary; the other two were so by instinct.

Nor did those charged to give the economic function a practical form,—the capitalists, industrials, merchants, business men,—adopt a better program: capital feeds on *agio*; industry on private concessions; commerce on smuggle; business on muddy speculations.

The popular class, the directed one, that destined to do the manual work, persisted in her old abatement. Emancipation did not lift these prostrated, did not vigorise these weak people; they continued being the voluntary slaves of other masters; the name was changed, the fact was the same. «Independence converted us into *gachupines* of the Indians,» William Prieto has said. Are we so still?

The ideas of equality, of democracy, had passed like the blast from a furnace without melting those ice sculptures. The indigene, ideally redeemed by the will of the legislator, the statesman, the tribune, the revolutionary, is spoliated, as in former times, by the land owner, by the manufacturer of the fields who in exchange for his low salary, yields him, at the *shop* and at high prices, the products indispensable for his miserable existence: ells of shirting, palm hats and above all, whisky, much whisky, the perfidious liquor of human elimination.



With such social elements a great impulse could not possibly be communicated to the industrial evolution of this period of our national life.

The new nationality was born and bred amid grave international complications manifesting themselves by a series of acts of hostility against the Mexican consolidation: the obstinate resistance of San Juan de Ulua, the landing of Barradas and Joinville's excursion sowed a mistrust towards foreign nations; later on, the war with the United States and the French Intervention powerfully contributed to keep this feeling alive.

Together therewith and more and more firmly they sustained the idea of our exceptional richness resulting a conception which during a long time had been a hobby not only of our less enlightened classes but also of a higher intellectual level; «the foreigners wish to possess themselves of our territory in order to exploit for their own account the amazing elements of prosperity contained in this privileged soil.»

By this sole fact, Mexico entered into a perpetual struggle with all the countries, our secret enemies.

Still in recent epochs we have seen in printed leaves and heard in parliamentary discussions people sustain that same principle, with an extreme ardour at the moments when the first franchises were granted foreign capitals, in the days when a liberal and large policy could save the country from the horrors of misery and increase its materials of welfare.

To prevent that supposed peril, there existed a supreme resource: to keep shut up within the limits of the nation, to live exclusively thereon, since it possessed all the resources indispensable for existence. And hence arose prohibitionism first, protectionism afterwards which have exercised so deep an influence on national industry which ever since the first times became disaccustomed to concur on the field of competition.

Even the liberal ideas, triumphant at last after hot debates, did not succeed in emancipating opinion from its economical errors; the men of the party that transitorily came to power until the triumph at Ayutla, had looked for their inspirations in the conduct of the administrators of *King Sun*. Colbert's work appeared them a model to which they procured to adapt all their financial programs.

However, the prejudices occasioned by the prohibitionist and expressively protectionist system were so visible that several publicists and statesmen that rose to public life with the movement of 1854, pointed them out quite clearly. Michael Lerdo and Emmanuel Siliceo, the former in his well documented work about Mexico's outward commerce published still under the dictature of Santa Ana, in 1853, and the latter in *Report of Encouragement* (1857), insist on the necessity of a liberal reform, since «the surest means to foment and get to progress a people's industry, with benefit for all, is to set it in competition with that of other more advanced countries and that the only protection that may be granted the industrial undertakers of a nation with regard to foreigners is to charge the merchandises of the latter with prudent taxes in order to hinder the rivalry to become ruinous for the former.»

It was a useless propagand; the doctrines of free trade, also learned in French books (Frederick Bastiat was the principal inspirator of our economists at the end of this epoch) ever remained on speculative ground; the *lyrics* as they have been called, were constantly vanquished by the *practical* men in the warm polemics of opposite interests.

The error of the independent period was at the bottom the colonial error; both inspired themselves in the same economical fact: the obstinate forbidding of the national market to the merchandise of other nations; the processes to obtain this result were the same: prohibitions, monopolies, privileges. Identical errors perturb the springs and thus the *balance of trade* continues being the revealing formula on which the directors of our industrial labour support their opinions.

Still at the beginning of the first crisis provoked by the depreciation of silver (1886) a group of publicists sustains the Republic is the victim of an odious plot of foreigners aiming at our ruin and a serious daily paper proposes as the unique saving measure to suspend the commercial relations with all the countries, our nation possessing more than enough products to attend to her own needs. Only a new

education founded on the dispassionate interpretation of the facts, on the scientific criticism of the national elements, was able to resolve the problem. But the upper classes lacked that education and therefore the young State did not contrive to find the way conducive to the conquest of its economical prosperity.

The characteristic mark of a nationality is the fusion of ideas, feelings, necessities and aspirations of all the social unities at the impulse of a common aim. In Mexico,—it must be stated,—at the beginning of Independence and a long time afterwards,—there was no actual nationality. Neither the conditions of the territory,—we so frequently have alluded in these pages as an explanation of determined sociological phenomena,—nor the diversity of races nor the difference of life, customs and intellectual level of the various groups could spontaneously give rise to that fusion generating collective solidarity.

The conditions of existence varied in every district; every climate marked distinct necessities; caziquedom contributed to deepen the abysses that separated the solitary entities of the State and the local imposts,—consequence of the federal system which only served to relax links,—still fomented that isolation raising sudden obstacles to the functions of the economical distributing apparatus.

The Mexican nationality has gradually formed later on with the common pains, sadnesses and also the enthusiasms and satisfactions; it has become cemented and has acquired forces by the suppression of the elements opposite to a homogeneous and harmonic aggregation.



Ruins of «La Aurora» spinning and weaving mill established at Valladolid (Yucatan), by Peter Sainz de Baranda

#### Industry and the revolutions.

—The secession war in the United States, the typical civil struggle provoked by an economic force, determined a great expansion of the North-American Republic's industrial elements.

It was the shock of the necessities of two portions of a sole State in two distinct evolutionary periods: the South, in the first agricultural stage, suggested by its natural riches, within the slavery system; the North, the industrial district, the energetic one, developing under free labour, anxious for expansions. «In the North, society and industry followed the general course of progress; in the South they remained crystallised in the immovility of conservatism.» an American publicist said, synthesising in a few words the causes of the conflict. The triumph of the Northern States has been the origin of the country's prosperity, shared, since the first times, by all the social classes.

In Mexico the civil wars have had an economical cause; but the victory of any of the contending groups did not immediately bring a change of the exploitation system of the riches, it tended not towards the satisfaction of the collective necessities but that of some of these classes.

In the United States all the producing and distributing groups of wealth have come to an understanding at last and at any rate they have shown themselves resolved to adjust their differences on the unique battle field consented by a democracy in full and active functions. In Mexico, during the national period we are referring to, those groups constitute powerful elements for the perpetuation of anarchy, important factors of armed contention.

The prohibitionist system, at some moment, could create an explainable antagonism between the two

nuclei that generate the social fortune: industry and commerce, which very soon came to harmonise their interests in this formula: industry claimed unsurmountable tariffs, lofty fences closing the passage for foreign merchandise. At the shade of those walls industrial work operated, authoritatively imposing its products in the national demand. Commerce availed itself of the chinks opened in the wide boundary surrounding the Republic and obtained by smuggling the utilities it was legally precluded from.

Pretorians and speculators finally came to an agreement and then the tariff question turned into a matter of revolution.

Typical is the example offered by a commercial house which in one of our internal revolts sent money to the forces that besieged government which at the same time it supplied with resources to pay the garrison.

Fraud becomes the nervous system of commercial life and the arterial net of public power; it displays bold manifestations, provokes reiterated conflicts, causes an administration to reel by the violence of its blows.

What interest had, indeed, a trader in the tariff reform either in a protectionist sense or in the widest of liberty of commerce? «That regards public welfare,—a witness of this state of things has written;—on the contrary, the higher the duties are, the more attractive is fraud, for bigger jobs may be made, after all; a bad reckoning of the governments opens the door for the most fructiferous of all the speculations: smuggle.»

«A revolutionary movement in a port is provoked or sustained by commerce.»

«Up to now those acquainted with these revolutions, laughing at the political pretexts have said: Whose are the customs? What ship is about to arrive or to unload? Or, after the movement has broken out and at the shade thereof large cargos are introduced which by the jobs they adjust leave every where a fecund irrigation and popularise the revolt as a lucrative resource for many.»

And the industrial undertaker?

The industrial is not only a corruptor of governments but also a revolutionary agent whenever from the revolution there results a profit for his interests. The industrial is not satisfied with being the privileged who obtains from an immoral and bankrupt administration special permits to introduce large quantities of raw materials included in the list of the products prohibited by the customs tariff; he is the agiotist who realises jobs ruinous for the national treasury and favours the *pronunciamiento* whenever its triumph assures him new and more positive advantages.

In this manner, industry, constituted into a privileged class, joining the other spoliator groups, took a very active part in creating a precarious and agonising situation where they were uselessly debating during this period. Leaning on the very agents who favoured the civil contentions it was unable to elude the general law wherein anarchy enchained all our elements of progress.

**The finance problem.**—A Mexican economist has formulated in brief terms the revolution begetting law: revolts invariably have their origin in the financial difficulties of the public administrations; at a determined level of the inevitable *deficit* there appear protest and rebellion. Revolution then has a liquidation purpose. Once triumphant it makes us believe for a moment in the existence of fiscal equilibrium; expenditure is augmenting by little and little; the days of want come on; government is obliged to enter into the net of ruinous speculations; lack of resources supervenes on a sudden and with it the never failing *pronunciamiento*. Thus the history of our intestine struggles is perpetuated.

Agio was a great sequestrator of capitals that might have been oriented towards some object more propitious for the development of social wealth. Why should people care to give their particular fortunes another employment than that offered by government, yielding utilities as it was impossible to realise in any other enterprise?

The finance problem exercises a very direct influence on the evolution of industry, it essentially modifies the conditions wherein capital is moving; withdrawing it from investments useful to public benefit.

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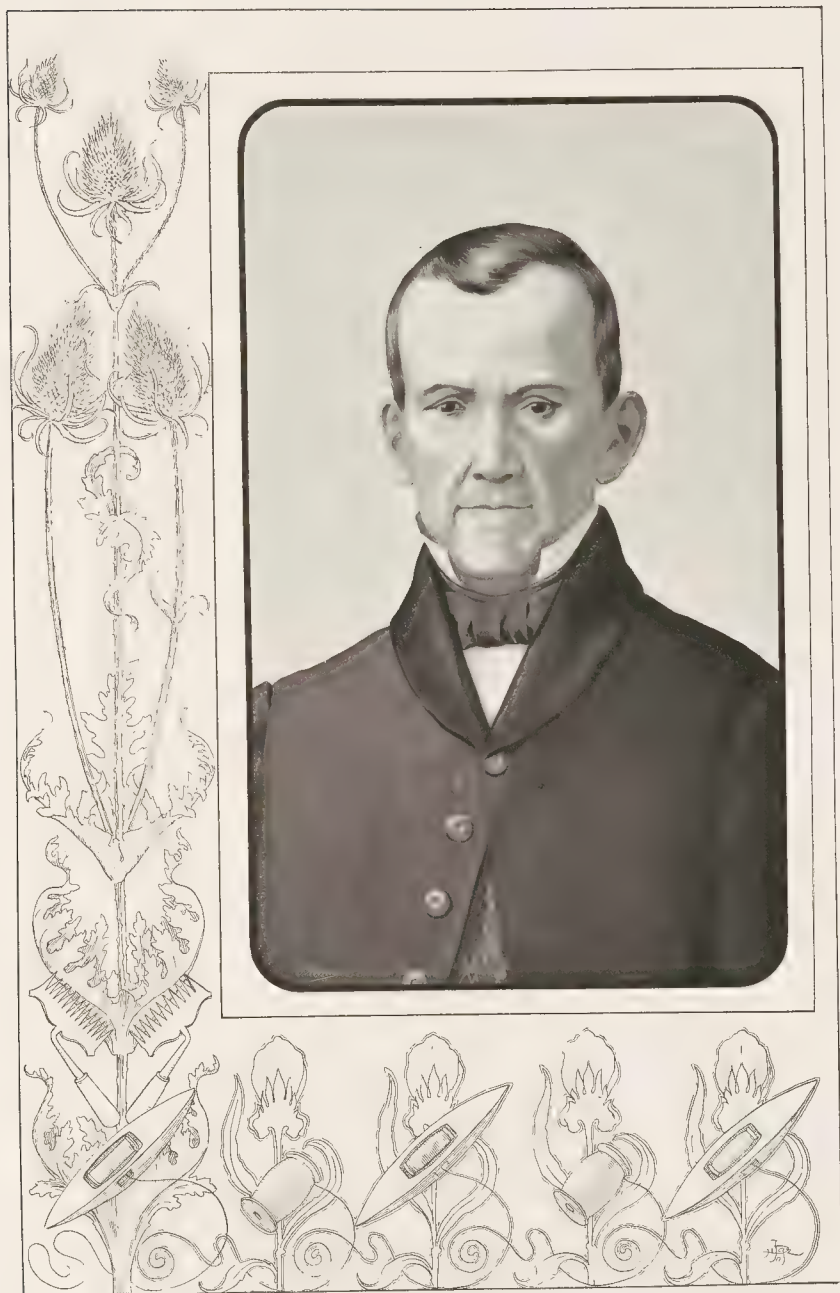
INDUSTRIES

Sir Stephen Antuñano



FOR THE YEAR 1900

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To render productive the money to be employed on industrial work it is necessary to offer it a gain equivalent to that it would obtain by agio operations, to create on its behalf a protection setting it astride. The prohibitions, high tariff duties, privileged concessions are a natural consequence of the deplorable state of national finance; they are its ineludible resultant.

There still existed another financial reason forcing the governments to sustain that system; the necessity, the direst of all necessities, the necessity of conservation. The main spring of resources for the public administration was constituted by customs revenue. It was firmly believed that a reduction of the tariff rates would bring about a considerable decrease in the totality of ingress insufficient to attend to the most urging exigencies.

All things were in gear in this complicated machinery; all things were at the same time cause and effect, premise and conclusion, antecedent and consequent: feelings as well as education, the administrative mistakes as well as the economical problems, the state of finance as well as the revolutions, all things formed the chain tying the country to its old and tenacious suffering.

It has been stated in a former chapter: the Iberian administrator's grave fault consisted in not having turned to account the elements which the organisation of the «Meshica» put into his hands. The independent administrator's fault was the same. His hatred against the past pulled him to destroy all the manifestations of colonial life. The edifice painfully raised in the course of three hundred years was pulled down without examining whether in the structure there were consistent materials, foundation stones available in the new building. The Jacobine principle was actualised: the tracing of an abstract State, the creation of a spontaneous society, wholly divorced from the customs, passions, needs, from all the characters, in one word, both physical and psychological, that are articulating a human aggregation.

Transfer this formula to the field of administration, to finance, to the modalities of production and you will have that chaotic series of fiscal dispositions that prepare a financial disaster.

The financial disaster, that is to say, the subsistence of all the diseased germs that hindered the expansion of wealth, that vitiated it with their venomous emanations; finance disaster that was an unappealable sentence to anarchy, to agio, to monopoly; the rigid perpetuation of all the resistances heaped in front of national evolution.

Let us show the particulars.

**From Independence to Reform.**—Independence did not devour so soon its work; the needs of three centuries were satisfied: the nation became open for foreign products, the deep longing for consuming felt by the classes that determined the emancipation, was fulfilled. The first customs tariff was that of a people which, gnawed by the torture of scantiness, by a delirious impulse, rushed to the full enjoyment of its exigencies.

In this first period of national life there was no industrial exertion nor could there be any: the brand new State, stirred by a pitiless war against the elements of wealth, exhausted of men and of capitals, entered joyful, but poor, into its triumphal road.

Not only was there no industry,—except silver mining that showed some encouraging oasis,—but the toilsome establishments raised by the viceroys at so much cost, also disappeared.

The first industrial manifestation came artificially, imposed by Luke Alaman's prohibitive system as an energetic salvation attempt on behalf of national prosperity. It was clad in grand patriotic phrases, it was disguised with the mask of an ineludible obligation to lend help to national labour.

At the shade of the tariff of 1829, a movement began to be initiated which, guided by an idea of seducing appearance, had for a result the creation of the «Forwarding Bank,» the most famous institution condensing the economical criterion dominant among the men of those times.

The «Forwarding Bank,» in its beginning was a formula of conciliation between the manufacturer and the consumer. The Customs law of April 6<sup>th</sup> 1830 derogated many of the prohibitive dispositions of the 1829 tariff, especially those relative to cotton goods, but it found an outlet which, for a while, sa-



tified the national manufacturers: it destined the fifth part of the duties collected for the importation of these goods to the formation of a fund consecrated to advance the industrial undertakers the sums they might solicit for the purchase of machinery, the amount of wages and, in general, any expenditure implying, more or less directly, a fomentation of that branch of public wealth.

And the great economical disorder began.

Big advances of capitals were made to manufacturers or people pretending to be such; machinery was paid, introduced from foreign countries with arduous efforts; artists and mechanics were imported that they might teach those of the country, and laniferous animals for the obtention of raw material and also not despicable sums were destined to help parasites and favourites.

The results? In 1832, when the system had already been functioning for two years, we read in the «Report and Accounts of the Forwarding Bank» the following words:

«Two collections of machines for cotton carding, spinning and weaving, ready for embarkment in the North, must be sold on that soil to pay their manufacturers, thus saving the high interest for the debt and the costs of storing and insurance. The artisans contracted in France for the cloth mill that never came to be of any usefulness weighed on the Bank with a considerable sum by reason of salaries and indemnities. Those who likewise came from the North destined to Celaya and the paper mills, returned to their own country after causing the Bank an enormous expense. The merino sheep that cost as much money as endeavours and cares for their conduction and preservation, remain to-day on an inland farm, nobody availing himself of their wools for lack of experts and machines whereon to be elaborated.»

The history of the paper mill «La Constancia» established at Tapalpa in the neighbourhood of Sayula, in the State of Jalisco, is a page revealing the improvidence, lightheadedness, baselessness that characterise the directors of the industrial movement of that epoch.

That manufactory founded in 1840, was constituted with an actual capital of *fifteen thousand* pesos divided into shares of *two hundred and fifty* each. The social fund having been gathered, the machinery was sent for in the United States at a cost reckoned at somewhat more than *seven thousand* pesos. Effectively, the machinery was not long in arriving, very superior to that asked for, but also a good deal dearer, its value rising to nigh *thirteen thousand* pesos. This disbursement left the Company exhausted; it was necessary for every shareholder to lay in two hundred pesos more, the capital then amounting to *twenty seven thousand nine hundred* pesos.

But this was not enough: the freight was to be paid, being very considerable because of the difficulties of transport; they amounted to \$ 14,835, a sum above the value of the machinery. A new enlargement of capital was needed to \$ 40,300. The expenses of placing augmented the fund up to \$ 55,800.

And when all the obstacles seemed to have been overcome, all the impediments removed, a natural phenomenon, the high flood of a river whose current the Company meant to turn to profit, destroyed a sluice and undid an aqueduct, causing a loss of ten thousand pesos. Consequence: increase of capital which definitively came to amount to *eighty five thousand* pesos.

Is not this, really, a typical example of the mindlessness and ignorance presiding over the acts of that industrial management?

The Bank continued advancing funds. Up to the end of 1837 it had distributed the sum of \$ 768,968 in this form: purchase of machinery abroad, \$ 203,343; effective money, \$ 565,625. Then there still remained a debt of \$ 407,265 which the industrial undertakers were unable to collect, because the public administration had disposed of the amount of the customs duties paid.

The financial crises succeeded one another without truce and the governments saw themselves compelled to seize any quantity they could lay hold of whatever its destination might be. Civil war completed the work. In order to distribute the sums proceeding from importation duties, it was indispensable for government to dispose of the customs houses, and the first manœuvre of any revolutionary group (we already know) was to possess themselves of those fountains of resources. And although this

event did not occur, there was another cause why the customs revenue was decreasing: the increase of smuggle.

The mill owners bitterly complained of the competition of the similar articles illegally introduced, not being aware of the fact that their situation was a natural consequence of the system that served then as a shield and then recommended the most anti-economical and least realisable measures as the farming out of the customs or the creation of a fiscal cordon, such a line of customs guards requiring an expenditure impossible to satisfy at that epoch when our frontier had a much larger extent.

The tariff of 1837 had encouraged the fraudulent introduction of goods. That resolutely prohibitionist ordinance gave rise to the most eager debate that could be originated among national producers and prepared one of the foulest and most illegal speculations. The debate was sustained by the textile manufacturers on one side and the cotton growers on the other; the speculation consisted in the official grant of special permits for the introduction of that product.

The import of foreign cotton being hindered as a means to protect agriculture, the prohibitive measures being carried to such an extreme degree that the clandestine introduction that fell into the power of the fiscal agents were doomed to be burnt (decree of November 22<sup>nd</sup> 1841), the cotton tissue manufacturers were obliged to have recourse to the national production in order to keep their mills a working. The cultivation of cotton, however, had decreased in a considerable degree; the produce was reckoned to be about *seventy thousand cwt.* a year; the mills claimed a consumption of more than *one hundred thousand cwt.*, resulting therefore a deficit of *thirty thousand cwt.* and this figure increased proportionally in the years of bad crops. What was to be done to normalise the production of the mills?

The mill owners proposed the prohibition to introduce their raw material should be abolished, but the cotton growers protested against that measure. Were not their interests as worthy to be sheltered as those represented by the manufacturers? And there were arguments exhibited in defense of each of the two branches of production; specious and partial arguments, because in the narrow union of the industries the product elaborated by one becomes the indispensable material for the other. So the linen rags imported into the country and utilised in the manufacture of paper; so the sulphuric acid that came from Europe among the pharmaceutic preparations and was sold only by the apothecaries until after 1826 in which year Luke Alaman established a mill and thereby reduced the value of that product to a third part of what it had been before the establishment of that manufactory.

In the acridness of this debate the public managers unlike the English reformist Peel, resolved to favour the divers branches of national production sustaining prohibition on behalf of all. And the favour to all became converted in reality into harm of all.

The cuirass, however, had its joints; through them there filtered the merchandise claimed by a society impotent to resigne to a life full of privations. Before the advances of smuggling public power imagined it was logical to become a smuggler. And it was so; it was an official smuggler, patented, operating at full day light.



Puebla. — «Mexican Constance.» Cotton spinning and weaving mill founded by Sir Stephen Antuñano

A pretext would not be missed; it was supplied by the scarcity of cotton that began to be felt since the year 1838 and the natural dearness of the article whose price rose from *sixteen* to *forty* pesos a cwt.

The sensible thing to be done would have been to open the doors for foreign importations. They were kept shut; but, in exchange, special permits were granted on behalf of determined commercial firms to introduce certain fixed quantities of the prohibited product, after the payment of a duty agreed between the contracting parts. Of course, under the shield of these franchises a larger quantity of introductions was made than the authorised one and of course also, *agio* was to mingle in the affair.

«In virtue of this combination,—Mr. Trigueros says in his *Finance Report* corresponding to the year 1843,—not only the necessary protection was bestowed on industry, but government obtained by this means a very considerable help to satisfy the greatest attentions of the treasury.»

So it was at the beginning; later on, the biblical dream was realised: the seven fat cows were devoured by the seven lean ones.

In 1852, after the triumph of the antiprohibitionist revolution of which we must speak hereafter, the still pending permits to import cotton and the debt contracted by government with that motive rendered the negotiations whose object was the tariff reform remarkably difficult.

An absurd thought may brood in a sound conscience. Then criticism is authorised to combat the error, doing justice to those who sustaining it gave patent examples of probity and energy.

Thus, among the crowd of jobbers who for their own profit availed themselves of the system there stand out some figures of great enterprise, personalities of a high relieve in the history of the Republic's industrial evolution. Their names must be reported in the present pages.

The precursor of them all was a mariner as valorous as intelligent, a man of initiative and a man of action, Peter Sainz de Baranda, who spent all his fortune,—Mr. Sierra has already stated so in the first volume,—on the establishment of the first textile manufactory existing in the Republic. The industry planted in the Yucatec peninsula represents a large quantity of useless efforts; it was not there the most favourable ground for the task; other exploitations ought to stir the soil of that remote district in the stupendous work of its enrichment. That attempt, however, has been at any rate an act of robust advance.

Later on, Sir Stephen Antuñano fixed at Puebla the scaffolding of what was to be in the course of time one of the chief centres of Mexican industry. He struggled sturdily, he struggled against the difficulties he met in the want of preparation for the new labours, the exiguity of resources and the lack of discipline to constitute association groups. He founded a company and with the help of the Forwarding Bank that advanced 176,000 pesos for the purchase of machinery and other expenses, he established one of the most flourishing mills (La Constancia) where they got to spin from *one thousand five hundred* to *one thousand six hundred pounds* of cotton a day.

An artificial effort, a child of protection, you will say. Certainly, but it is not less certain that of all those who exhausted the funds of the Bank,—and there were some who entered for sackage,—Antuñano was one of the few who could show a serious result.

Other names we ought to aggregate: that of Emmanuel Zozaya Bermudez, founder of the first paper mill established in the surroundings of San Angel; that of father Michael Molina, monk of the Querétaro convent of Saint Augustin who realised, with a flattering success and notwithstanding the imperfection of the apparatus employed, some attempts at utilising the maguey fibre as a raw material for the elaboration of paper; that of Vincent Munguía who introduced into this country and got to work the Jacquard looms.

However, among them all Luke Alaman stands out, the actual director, the *alma mater* of that movement. He was a lofty intelligence lost in the errors of an epoch. His endeavours had a noble aim; he pursued the prosperity of his country, although he took misleading ways.

He had penetratingly studied some of the problems whose solution constitutes at present the base of national progress, he saw clear in matters which many people hardly begin to understand now. Let us take note of some opinions of his.



Natural impediments to the expansion of public wealth. He spoke thus: «The difficulty of transport is a great obstacle for the advancement of all the branches of inland fomentation, because the dear freights render impossible not only the exportation of many products of our agriculture and industry, but even their consumption at places somewhat remote from the spots of their production.» (*Report on foreign Relations* corresponding to the year 1831.) Influence of the development of wealth to assure public peace. Look here his words: «Of course the abated cotton and wool branches will recover their activity and this will contribute, on the large and the small coasts of the South, to keep quiet and good order among those inhabitants.» (Ibidem.) National solidarity as a consequence of the unification of interests. «These economical advantages are joined by other political ones of the highest transcendancy. The mutual relations and necessities between the States composing the Federacy get multiplied and the ties of convenience strengthen the links of the laws.» (Ibidem.)

His starting point was irrefragable, but the processes on which the system rested were erroneous. Alaman himself became a victim of this system that spoiled his personal fortune, leaving his probity unmarred, in a bold enterprise crowned by a desolating failure.

Let us state the case with brief words.

About 1836, Mr. Alaman constituted a society for the establishment of a cotton spinning and weaving mill at Cocolapan and another of wool at Celaya. Business went on prosperously at the beginning; but the very extension they wished to give it and the cotton crisis alluded to in former paragraphs, complicated the company in ruinous credit operations wherein the manager himself was engaged.

The enterprise, effectively, had solicited advances at the interest of *twenty four per cent a year* and the amount of the sum not only absorbed the utilities but brought about the ruin of the business. Alaman had signed some bills and his name remained linked to the fate of the Company. A recent law declaring annulled all the loan operations above 12 per 100, opened the doors of salvation; the expedient was legal but indecorous. Alaman preferred to meet his engagements, made a cession of his estate and dedicated his exertions to the amortisation of the debt.

A man of initiative, intelligent, organiser, energetic, although mistaken in his economical and political criterion, Luke Alaman's figure shows, we are sorry to state, a dark spot. The spot is of blood and its name is Guerrero.

In virtue of a law dated September 23<sup>d</sup> 1843, the Forwarding Bank was suppressed, but the prohibitive system remained on foot serving as a factitious prop to the industries established in the country. The system might apparently determine the creation of the Mexican industries; its inherent drawbacks stroke serious wounds to the same branches of production it meant to protect.

By all we have said it may be seen the industries more directly favoured by the administrative managements were those of cotton and wool spinning and weaving.

As for the former, there existed in the year 1843 *fifty seven manufactories* distributed in the following manner: five in Durango, one in Guanajuato, four in Jalisco, seventeen in Mexico, twenty one in Puebla, two in Querétaro, one in Sonora and eight in Veracruz, with 125,362 spindles in activity producing *seven hundred thousand* pieces of calico a year, valued at about *five million pesos*. The salaries amounted to \$ 27,257 a week.

In spite of the fact that the consuming class had considerably increased since the epoch of the viceroys the progress of that industry had not walked parallelly with the needs; bleaching had been established only at «some mills» and only in *La Aurora Industrial*, at Puebla, they had carried out a very successful trial in the manufacture of printed stuffs.» (*Report on Industry*, 1843.)

Regarding the manufacture of wool cloth it had not succeeded in developing at the same rate as that of calico. It was a genuinely popular industry and its production was distributed over the domestic looms in the country and in the towns. In order to make it progress it was decided the national army should be clad in home made cloth, although that resolution represented a sacrifice of some importance for the exhausted public treasury. The largest manufactory was *La Pama*, established at Tlaxcala, with 660



spindles and a production of *six pieces a week*. From this fact we may get an idea of the state of that industry.

Also an object of special protection was silk weaving which, we are quite aware, had attained a notorious development in the last times of the viceroys. At the epoch we are referring to there existed in the country twenty one workshops able to produce *one hundred thousand pounds* of silk. At these establishments about *four thousand* hands were working; besides, they reckoned *four thousand* operatives more were occupied in twisting, dyeing and reeling that raw material.

The manufacture of paper had risen again from the tomb to which it had been doomed by the colonial system. In anterior pages reference has been made to the first paper mill established in the Republic. Others followed: that established at Puebla by a company headed by Father Joachim Furlong and which had two long seasons of movement and paralysation, according to the necessities of consumption and the scarcity of the raw material, rags (at present wood is made use of) being inabundant in a country where a large majority of the inhabitants was formed,—it is so still,—by an immense group of halfnaked men; that of Mr. Berazaluze, at Tizapan and that established at Tacubaya by Mrs. Benfield & Marshall, an industrial firm well known up to our times.

As it had been done with cloth, so the production of paper was given a helping hand by decreeing the public offices should be exclusively supplied with the national product. In the printed matter of this period an inferiority more and more marked is to be noted as for the quality of the paper. This fact was a consequence of the system which at last lulled the manufacturers into the lazy sleepiness of routine.

On the other hand prohibitionism was unable to raise the clogs laid on industrial expansion. New forms of production had been attempted, but they did not meet a fecund and renewing spread. Circulation stumbled not only over the want of easy and cheap communications but also over the immense number of assailants who at the shade of any improvised political flag made frequent attacks on property. Thus, in the year 1830, the landing of several engines bought abroad, must be put off, for fear they they might fall into the hands of the revolutionists.

Industry had but one expedite door, that opened by the fairs. The fair came to substitute the galleon of the viceroys.

Every year, taking all kinds of precautions, a market was organised in some centre easy to be watched. Merchants and consumers concurred there, sometimes from remote districts and returned to the places of their residence amid the jeopardies accumulated by anarchy. The yearly provision having been realised, there was no ground for thinking of new consumptions.

The product might pierce the close net of the robber bands but it would never elude the pursuing action of the hungry local fiscal agents. The assault of the outlaws having been overcome, there remained the legal one, the excise, which in certain States represented a rate equivalent to *twelve and a half* of the value of the product. It is true a law terminatively prohibited inland imposts on effects of national industry; but when this disposition was violated under the shield of the federal principle, the interested were obliged to have recourse to the high court of Justice and this implied expenses and delays always in prejudice of the industrial people.

But if excise prejudiced industry, in exchange it served as a counter-guard in the persecution of the prohibited wares fraudulently imported into the Republic; it was a vicious circle from which it was impossible to get out. They, effectively, did not get out and the *imbroglio* intermingled, harming them, all the economico-financial factors.

The revolution of 1851-1853 was an anti-prohibitionist revolution. At Matamoros a military chief derogates the customs tariff and improvises a liberal one, claimed by the commerce of good faith of that port; Veracruz and Tampico seconded the initiative and as there could not fail a regenerative plan turning round the spoils of public finance, the Jalisco one served as an opportune pretext to return to the origin of the evil: Santa Anna came back accompanied by his indispensable minister Mr. Alaman.

Was it the triumph of the platform destroyed by the last revolt? Time was not left for appreciation;

Alaman died a very few days after dictature had been declared. His name was not seen to be mingled in that series of financial and administrative blunders which determine the movement born at Ayutla and which marks a perceptible change in the direction of the minds and at the same time in the system of distribution of public fortune.

The new ideas, animating the liberal group triumphant in the middle of the year 1856, are to be found synthesised, as nowhere else, in the discussions of the Constituent Congress whose result was the elaboration of the political Code of 1857. All this ardent enthusiasm and all their absolute divorce from the medium they legislated for, are admirably apparent in the solutions of the economical problems comprised in their work.

The constituents attacked the effects face to face but they never thought of combating the causes. They proclaimed liberty of work without supplying the hypothetical citizen with the means to become one in reality; they abolished monopolies and prohibitions, not minding those directly emanating from nature herself; they decreed the abolition of excise not caring for the spontaneous difficulties to the circulation of national production. And therefore the economical problem remained on foot. The economical problem which, regarding the industrial evolution, continued dependent on the same factors that encumbered the movement of wealth: the want of expansion in consumption, consequence of the scanty power of acquisition of the upper classes and of the misery of the proletarians; the inequitable sharing of social wealth; the predominance of the privileged groups and the bond of the capitals. The Reform answered an imperious necessity to untwine those ligatures: it was unable to untie the Gordian Knot and cut it with violence. The first fruits of this rude contention came not to be reaped; the new program was hardly triumphant when aggression called at the Republic's doors.



Modern industries. General view of the large manufactory at Metepec  
(Atlixco Industrial Company)

**From Intervention to the restoration of the Republic.**—The history of the American Intervention has not yet been written; nor has the history of the French Intervention been written. Some day, when the words *Native country* and *Truth* will no longer imply two antagonical conceptions, as they have implied till now, somebody will trace the pages of a grave and severe book for which there exist lofty and noble materials.

Intervention was aggression, a fact against right, an act against doctrine. Politically, it formed the national unity; economically, it came like all invasions, to develop collective exigencies.

Those men descended from a loftier step of social life and must break the frame that had enclosed the national needs. When Napoleon III, in his message of 1866 to the Chambers of the Empire dissolved at Sedan, announced Mexican commerce had increased from twenty one to seventy five million francs, with France alone, he could be said he was realising the economical thought that resolved the adventure. This is clearer now when the great industrial powers live in a nervous agitation anxious to find new markets for their overflowing industrialism.

The French came not over to create industries in the invaded country, they came to foment those of their own country. The current is put in the right channel and very soon the largely consuming classes are won over by the example; life then attains unknown refinements, people acquire a taste for

first class goods and resolutely reject the imperfect products offered to demand by industrial labour up to then.

On the other hand, even if they had wanted to encourage the national industries, the invaders would have been unable to succeed; struggle had called at every door and the weapons of peace, the tool and the engine, were replaced by the arms of war. The Empire was an outlet of this situation; but the Empire was doomed to disappear, not only before the violence of opinion, but because of a decisive factor: the bankruptcy of the public Treasury. It was a government of vaguenesses, of indecisions, diseased of will, pursuer of ideals, of redemptions, of great works never realised. When the budget showed a deficit of *twenty seven millions* pesos over a total income calculated at *twenty two millions*, it could be positively affirmed the Empire was ruined.

It fell down, indeed, gnawed by the same weevils that had corroded former governments: excessive expenses, ruinous affairs, antieconomical fiscal laws, this time impregnated with a brilliant exoticism. In less than five years there appears a sum of disbursements of \$ 110,764,917; the debt contracted by the Archduke amounted to \$ 250,195,073, the yearly interest to fifteen millions (Emmanuel Payno).

In front of the most acute financial anemia a luxurious administrative program was displayed: great material improvements, railways, colonisation, reforms in public instruction, a whole stout edifice raised on slippery ground. The hare was wanting for that ragout and the relishable dish must as yet remain in project.

Industry was not to be forgotten; it was included in the lucid inventory. It ought to be strengthened, encouraged, converted into a source of wealth. And the dream continued.

Lewis Robles Pezuela's *Memoria de Fomento* (Fomentation Report), corresponding to the year 1865, resolves on the paper the gravest industrial problems. As elements of this jubilee program capitals and credit were required and as results public tranquility and guaranties. And as none of these conditions was fulfilled, they made nice embroideries in the void.

To impel the labouring groups of the Nation? But this was the very butterfly pursued by the restless prince of the golden beard!

Read the «Regulations» of the «Labouring Classes Protection Board;» it is a revelation, that document: the working groups ought to be protected against the vexations of the masters. And the «Regulations» protect them to such a degree that they deprived them of all liberty and conscientiously strangled them. It was necessary to protect the undertakers against the rapacious mind and the laziness of the hands. The «Regulation» supports them until they result most bountifully handicapped. A learned Mexican of a lofty height of intelligence and a sound instruction, Francis Pimentel has made criticism of those «Regulations» which explain and sum up that administrative criterion.

But no, there was no sole criterion, a nucleus of linked ideas!; it was a diversity of contradictory criteria, substituting one another according to whence the wind blew that brought them or carried them away. And all the economical forces were submitted to the fancy of these blasts.

Thus, hardly had an impost been decreed on the cotton, wool and flax manufactures, a representation of the millowners suspends the charge which it is to be supposed had not been decided upon but after coming to a deep rooted conviction. And for these reasons, Empire never came to be protectionist or free-trader, fomentor or extorsioner of industry, as in politics it was neither liberal nor conservative, through the lack of a program, of discipline, of thought, of compass.

War continued taking hands from labour and markets from production; nor did it cease snatching resources from the Treasury. At the middle of 1866 the custom houses at Matamoros, Tabasco and La Paz were in the power of the Republican forces; those at Tuxpam, Guaymas, Mazatlan, Tampico and Acapulco were unproductive, those ports being blockaded by the liberals; the whole country was burning and amid the red flames the silhouette of the Querétaro gallows might be descried, the end of that dream formed of moonshine and dashes of blood.

The American invasion and the French intervention have exercised a notable influence on national



labour and quite especially on industry. The Invasion put our popular classes into contact with groups already prepared for the use of machinery.

That influence of the example, strongly marked at the present moments, was the first practical lesson of industrialism available for men up to then consecrated to a defective labour which it had not been necessary progressively to improve by the want of competition.

Intervention completed the teaching. It was, as we have stated, a revelation for that society shut up within the limits of a narrow life, ill attended by a rough and defective production. France was in those



Modern industries. — Weaving hall (1,000 looms) of the large Metepec manufactory

times one of the foremost nations in the field of industry (the great American manufacturing expansion, we are well aware, followed after the secession); the wares that penetrated into this country behind the French bayonets traced other directions to the national exigencies and when the four velvet lined deals with which a throne had been raised, fell down, an enormous economical transformation had been operated; aspirations being enlarged, demand rendered more active, a pressing necessity was felt to procure the forces indispensable for the realisation of the new cravings. Was the triumphant Republic able to come into the possession of those forces? Such was the problem to be faced by the government that emerged out of our second Independence.

At the end of 1867, admirable president Juarez made known the economico-financial program that ought to serve as a base for the development of the reconstituted Republic: «Government has bestowed its protection and the possible concessions to enterprises which may be of great usefulness to commerce, industry and other branches of administration. Besides dictating the opportune dispositions to regularise the management of public finance and to liquidate and acknowledge the legitime credits, government has



procured to obtain all the economies compatible with the good service and it has been observed as an invariable rule not to incur into the old system of jobs that has been the most efficacious cause of the discredit and ruin of the Treasury.» (Message of Citizen president Benedict Juarez to the Congress of the Union, December 1867.)

It was written that while the premises were not modified, there could be no change in the conclusions of the terrible syllogism circumscribing national evolution. Over all the aspirations and over all the longings the shade of the financial problem remained floating, sinister, unappealable, inalterable. Matthias Romero, with his characteristic frankness, simply shows the facts in his full Report of 1870: in 1868-1869, the theoretical *deficit* amounted to 7,899,000 over 15,931,000 of income; death overtook the Well-deserved when the administration he presided over was going to enter on the dangerous slope that leads to the abyss. Like heralds of the storm there were to be felt preludes of new longings, outlines of vague hopes, blasts of an immense necessity, without a precise name, without a concrete formula: it was the wish to affirm in positive facts for all the social groups the realisation of a happiness that never arrived.

After fifty years of sterile commotions, the nation's constitutive groups claimed something more solid than eloquent words and fruitless promises. Rhetorics had finally sickened the minds with incurable pessimism; the traditional phrase: *there is no remedy for us*, seemed to doom the country to her doleful fate. As a commentary to every new mishap the citizens were invariably told: «you are very rich» and misery continued appearing at the door of every home.

The Republic had lived solitary, hermetically shut up. Was it a way? So it was deemed by the men who up to then had the direction of the economical forces in their hands. Beyond the limits that marked the boundaries of our country, there was nothing but aggression and spoliation. Where were, however, the great motors of industry? The foreign capitals waited for guarantees, solidarities. So it was stated by orators and poets, by politicians and publicists; it was needful to believe them.

Balance appeared disconsoling. The great deep rooted industry, the most serious after mining, the preferred, continued immovable. In 1876 (Statistical tables inserted in the «Elementary lessons of political Economy,» by W. Prieto) there existed in the country *forty seven* cotton spinning and weaving mills; that is to say *ten* less than in 1843. The number of pieces delivered to national consumption continued being *seven hundred thousand*; the spindles in activity 119,278 (in 1843, we have seen, they were 125,362); weekly salaries \$ 24,000; in 1843 \$ 27,000. This was the result of the isolation policy, the national, the patriotic one, as the managing groups proclaimed.

And like the murmur of an agitated sea, the echo of a loud national clamour was heard letting perceive the strophes of its long, irremediable and painful tragedy.

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## CHAPTER V

## SITUATION AND FUTURE OF MEXICAN INDUSTRY

## WEALTH IN FUNCTION OF TIME.

ELEMENTS FAVOURABLE TO INDUSTRIAL EVOLUTION: RAILWAYS; NEW EDUCATION, ADMINISTRATIVE MANAGEMENT; PUBLIC FINANCE; THE DESCENT OF SILVER. PRESENT SITUATION OF MEXICAN INDUSTRY. FUTURE OF THE NATIONAL INDUSTRY. CONCLUSIONS.

**I**N four hundred years, the Mexican aggroupment has walked the way of more than twenty centuries travelled by the rudimentary European aggregations in order to reach the modern period of industry.

Through the large currents of the national economical evolution there are still vital problems to be discovered waiting for their resolution: the problem of the indigenous race which persists in her old hieratic, impassive and dumb attitude, isolated, by habit and want of willingness, from general development; that of alimentation linked with huge agricultural necessities, irrigation and improvement of the cultures; but the impelling forces, already unified, interlocked, mark a stage of progress in the conditions of our social dynamics.

In order to attain the results pointed out in this book by the diversity of its manifestations, a rude fight has been indispensable against the physical impediments, a prolonged series of rectifications and amendments that have had for an ineludible end the adaptation of the natural elements to the complete and homogeneous national life. In this task the solution of one conflict brought along with it the solutions of others and while making out one unknown, the possibility has been discovered to find the value of those which still remained.

The national evolution in this last period of Mexican history is an ineludible consequence of all the efforts realised on behalf of the expansive solidarity of interests: abolition of the impenetrable national isolation; facilities created in the economical distributing apparatus.

We must examine the linking and steering of the facts.

**Industry and railways.**—The first of the national now developed industries has been that of the railways.

When the communication ways were opened, the laws of the medium were rectified, the traditional hindrances to expansion and consumption were banished. Then there already existed a link of union and solidarity in the invariable succession of isolated districts. Production found courses to be steered, markets to be supplied. Around the focus of labour there was no longer a desert spreading, there was no longer plunder to be feared: national labour had broken its chains; the first obstacle, the territorial extent, had been overcome.

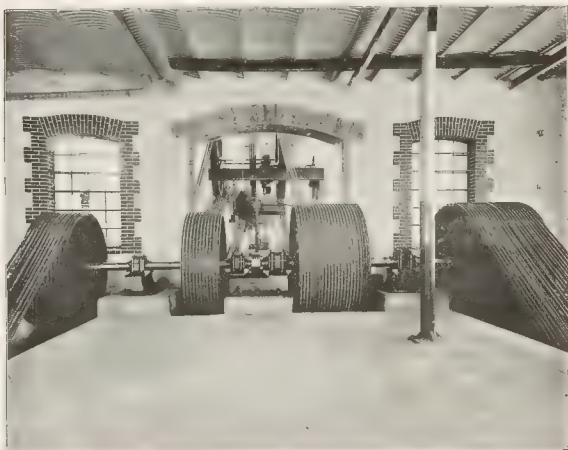
To be sure, the railways have required hard sacrifices; the configuration of the soil increases the expense of construction and exploitation; they have united the extreme ends of lines solitarily prolonged through uninhabited tracts of land and it is the last consumer who necessarily supports these costs. Nature protects us against foreign industrial competition, but at the same time, how great so ever the progress of our own industries may be, except mining and the elaboration of substances of easy production (tobacco, at present and henequen doubtlessly later on, among others) it hinders us to go abroad and take part in the competition. The national product bears in its price the surcharge laid on by Nature.

Mining is also another prime industry from whose trunk the branches of the metallurgic industries have profusely spread out, overstepping the horizon of interior demand, extraordinarily favoured by the

railways. Towards the Northern frontier of the Republic, in the neighbourhood of the roads that set us in contact with the markets of the American Union, a new task has been planted, as we state in another chapter of this study, striking deep roots in the Mexican soil: metal foundry. It is the work of American protectionism's dulness; but also the work of the railway facilities permitting to draw out a product which has no total immediate consumption in our country.

The railways have done national industry another important service: they have freed it from illegal competition, constituting centres of watchfulness, places of fiscal strategy, appropriate to the extinction of smuggling. On the other hand, the fraudfully imported ware carries in its furtive internation the surcharge of a higher freight than that by railway and so, economically as well as fiscally, its struggle is carried on in utterly disadvantageous conditions.

Still more has been accomplished by railroad: it has given access to modern machinery. If, as a



Metepec manufactory.—Transmission of force from turbines

suggestive fact, we wanted to form an idea of the railway task in the order of things we are treating, it would be sufficient to state the total volume of the material for industrial establishments transported during these last years. Then we should consult the statistics of our foreign commerce and take note of the enormous volume of machinery imported into this country during the last years and destined to industrial labour.

That material would never have been incorporated into Mexican industry without an enormous expense which the acquisition power of the country perhaps would not have been able

to compensate. Remember what we have stated about the crisis happened at the first attempts after the creation and working of the «Forwarding Bank.» The example cited about the cost of the transport of machinery for the paper mill «La Constancia» is characteristic.

The railways have been the standard-bearers of our economical evolution; they have been so likewise of politics. They opened the door for merchandise and at the same time for ideas. Production, legislation, feelings already counted on ways whereby to spread; by the arterial net the warm blood of thought and of life was going to run.

**The new education.—Administrative management.**—The new orientation of the leading groups is the fruit of an education based on the serene and sedate knowledge of truth, on the discipline of a severe and inflexible method that came,—so it has been stated before by one of the most conspicuous collaborators of the present work, at a solemn opportunity,—to scare away the gloom of intellectual and moral anarchy that had reigned in all the minds.

What were the bases of that education? They have been sketched, better than by any one else, by the eximious master who threw the first seeds into the furrow:

«An education in which no important branch of natural science should be omitted; in which all the

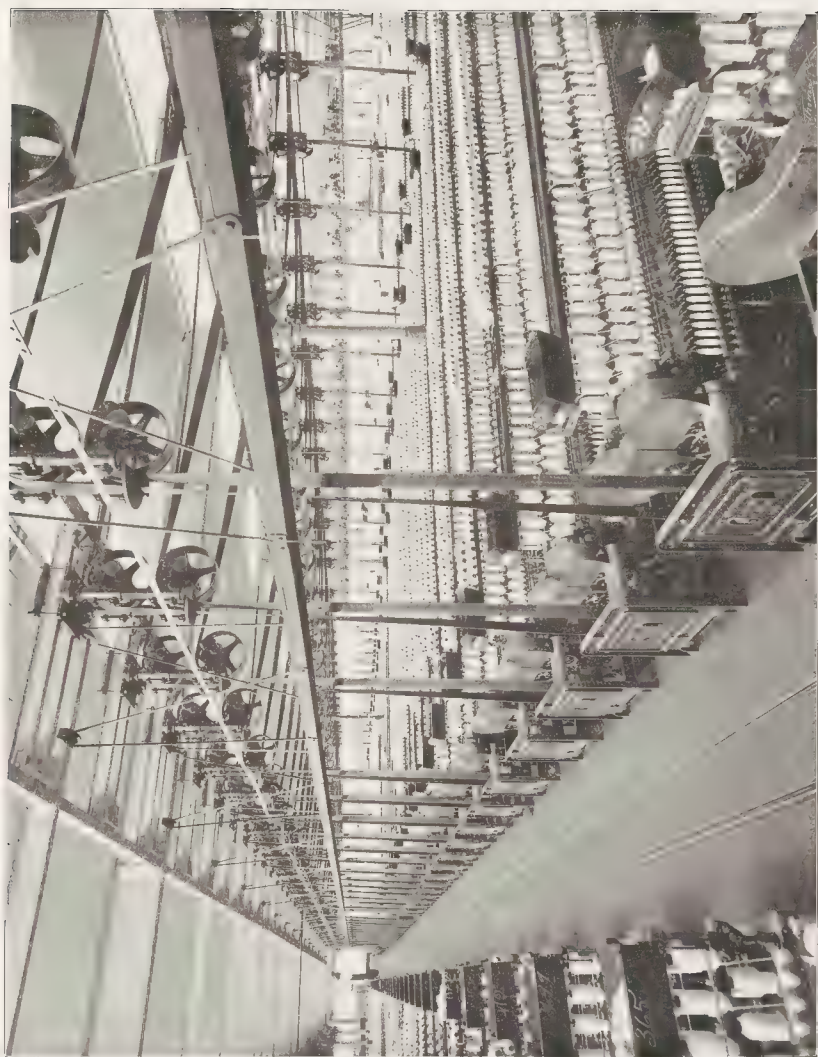
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**Industrial Negotiation of Rio Blanco.  
Spinning department (Orizaba)**









phenomena of nature, from the simplest to the most complicate, were studied and analysed both theoretically and practically in their most fundamental parts; an education in which both feeling and the senses ought to be cultivated, without any endeavour forcibly to maintain this or that opinion, this or that political or religious dogma, unafraid to see this or that authority contradicted by the facts; an education undertaken on such bases and with the only desire to find truth, that is to say, what really exists and not what in our conception ought to exist in the natural phenomena, cannot but be both an inexhaustible fountain of satisfactions and the surest preliminary of peace and social order, because it will make all citizens able to appreciate all the facts in a similar manner, and therefore will render opinions uniform as far as it is possible.» (Gabinus Barreda, «Letter to C. Marianus Riva Palacio,» 1870.)

This education was destined to destroy the traditional lies that had served as a storehouse for all the programs of administration and government; it came to throw to the ground Iturbide's phrase we have alluded to in the beginnings of this study, demonstrating that national prosperity must be a consequence of common exertion, of the union of all wills, of the solidarity of all the consciences, and that economical welfare could be attained only pulling down all the hindrances, annihilating all the obstacles opposing national expansion.

This doctrine had a philosopher; it was soon to have a man of action. It was a warrior nimbussed with the epic glories who, gathering those loose threads, those vague longings, those stammering words, elaborated a program of extraordinary solidity, of unheard of tenacity, strong and resistant like the materials of which he had to avail himself:

«At the moment the Republic was consolidated, the Nation found herself in possession of a most vast and rich territory within whose am-

bitus and in whose entrails incalculable riches are contained; endowed with institutions whose principles give room for all human greatness and liberties, and provided with a government whose democratic and republican form is a shield of all the guarantees and all the rights of man and an efficacious defence against the tricks and perils coming from abroad. Superficial minds might have thought, and actually thought, nothing more could be wished and nothing more could be asked for and that within the ample horizon emancipators, reformers and liberators had opened for the country, the Nation had but to walk on content and satisfied towards the conquest of her prosperity. A vague disquiet and a latent discontent, formulated at last in express protests and in energetic movements, came very soon to show there were still compressed aspirations and unsatisfied needs and that the people was resolved to fight, as it actually fought, in order to plant a system of reforms necessary for the development of their interests and the improvement of their material and moral condition. At this occasion, like at former ones, the good cause triumphed.

«The necessity that impelled to the last and supreme commotion of 1876 was that then experimented by the whole nation to utilise her natural elements of wealth; to repopulate her territory almost unpeopled by the foreign wars and the countless civil contentions with their sinister retinue of misery and calamities; to cross the territory with numerous and quick ways of communication; to open new markets for our ports; to procure to widen our mercantile transactions; to set an end once for all to fiscal penury

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Mexico.—Façade of the edifice of the Mexican Cigar Company



and its funest and, up to then, inevitable consequences; to restore the lost national credit; to diffuse instruction among the people and, in sum, to promote in every sense and in all forms public and private prosperity, redeeming therewith the people from double slavery, ignorance and misery, and lifting the nation by her wealth and powerfulness to the high standard it behoves her to occupy in the concert of the civilised peoples.» (Report of C. General Porphyrius Diaz, President of the United Mexican States, about the acts of his administration during the constitutional periods comprised between December 1<sup>st</sup> 1884 and November 30<sup>th</sup> 1896.)

When carrying this program into practice the Government that attempted such feats had necessarily to face the industrial problem shut up in the close net we have outlined. How was it to manage, indeed, in order to wake industry out of its old incurable soporose state?

It has already been stated in these pages: «The gravest reproach that may be made the Castilian dominators, first, and then the colonial government, is not to have respected one sole manifestation of economical life of those they met in the conquered land. The new directing groups wanted to efface every track of the aboriginal civilisation, replace one system of exploitation by another, not availing themselves of any of the materials bequeathed by the undone empire of the Meshica.» And the Iberian's mistake was followed by the blunders of the independent Mexican: «His hatred for the past led him to destroy all the manifestations of colonial life. They destroyed the edifice painfully raised in the course of threehundred years, not examining whether in the construction there existed consistent materials, foundation stones available in the new task.»

The government emanated from the last armed national agitation, offered in appearance the aspect of a revolution government; but at the bottom it was and has been, ever since it exercised power, a government of evolution. To sustain those materials, to utilise those corner stones, not to shake off by a sudden jerk the elements of wealth; and afterwards, to modify the conditions, to change the antecedents, but always conserving, not destroying; maintaining, not undoing.

And it conserved and maintained the first industrial manifestations of the country under the same system. Protectionism was a fault; but would it not have been another, more transcendental, fault to undo by a sudden impulse, the vacillating existing establishments? It was preferable to keep them on foot, hoping a day would come when one might declare: «As for the development of manufacturing establishments which has begun to appear with so much vigour, we must operate with the greatest circumspection and prudence, because it would be a pity if, through the circumstances of the quality and quantity of the raw material, through the geographical conditions and the difficulties of communication or handicraft, it became necessary to have recourse, afterwards, to exaggerated measures, in order to prevent the ruin of one or another industry, of official protection contrary to sound principles.» (Speech delivered by Lic. Joseph Y. Limantour at the ceremony of the closure of the National Scientific Congress, 1901.) Promise made through the mouth of the most able and correct financier and one of the most disciplined statesmen the national evolution has had in its service.

It was preferable to expect the propitious opportunity to lay hand on the fetich. And that opportunity was not long in presenting itself. The year 1886, when for the first time, the great shake produced by the depreciation of silver was felt, a prolonged alarm caught the minds, still somewhat troubled and upset before the unexpected transformations produced by economical progress. It was the first time a scientific study was undertaken of the constitutive elements of national production; it also was the first that the wealth of the Republic was put on discussion.

From that severe and calm work free from fanciful whims being effect of the new education, useful truths were drawn. A group of them, solely interesting these chapters, refers to the encumbrances still opposing the evolution of national industry: the high duties on the importations of raw materials. The statements were revealing; the industrial acids were charged with the following rates: sulphuric, 1.200 *per 100* of its value; chlorhydric, 1.600 *per 100*; nitric, 120. And one informer remembered by phrase of a celebrated economist: «The people that charges sulphuric acid is opposed to civilisation.»

In front of the acuteness of the crisis, government thought it was necessary to conjure the perils emanating from the situation. For a moment it was possible to think of the triumph of the old ideas: the bill for promoting Mining, Agriculture and Industry, introduced into the Chamber of deputies at the end of the year 1886, and signed by the best informed economists of that assembly, advised the concession of premiums to the exportation of a group of national products. During debate this first part of the initiative was withdrawn; in exchange, important industrial raw materials: the acids, brimstone, sulphate of copper were freed from custom duties. The siege began to be raised and through the already breachful walls within which Lady Industry, the feudal industry, had dwelled, new reinforcements were going



Mexico.—Mexican Cigar Company. Mince-tobacco hall

to penetrate, not to pretend its defeat, not to procure its extermination, but to lend it new encouragements and spread it to the four cardinal points.

But was production actually able to spread with liberty, to transit without the old hindrances that until then had obstructed its way? The railway artery, amply ramified, served as a channel for industrial distributing; but what the iron road widened, was narrowed in by the fiscus of the States and in front of the space devouring locomotive there arose *excise* dropping the weight of the local tax upon the product.

And the weight of that tax was heavy. A specialist publication, examining the revenue system of one of the federative entities (1889) remarked, the rates fixed as turnpike-duties in that State were almost absurd: «Calico paid three cents equivalent to 33 *per 100* of the value; chintz is augmented by 50 *per 100*; mufflers, 33; motley cloth, 200; felt hats, 50 *per 100*.»

Two fiscal Congresses had been held in the capital of the Republic (in 1883 and 1891), but the representatives of the States had not come to an agreement. Must industry then be left shut up in the

entangled imbroglio of the local administrations? Would not the work of the Federal Government be thoroughly and energetically seconded?

At the end of the year 1895 a bill was introduced into the Chamber of Deputies of the Congress of the Union proposing the reform of the constitutional article relative to the faculties of the States governments in fiscal matters. The reform, unanimously approved, suppressed by one blow the inland taxes on the circulation and consumption of the products of national wealth. Excise disappeared from the whole extent of the territory and thus the last ligature was untied that immobilised the national industry.

**Industry and public Finance.**—However, neither the construction of the railways nor the abolition of the inner imposts would have resolved the industrial problem without the help of another factor determining the mobilisation of latent Mexican wealth: the importation of foreign capitals.

The home fortunes, weak and timorous, since former times habituated to narrow speculations, nourished with the juice of monopoly and privilege, were lacking force and amplitude to be applied to the new steerings given the national work. The importation of foreign capital was at the same time a powerful auxiliary for the industrial task and an example for the inflexible resistencies which the development of the country met from the part of the groups most favoured in the sharing of the social fortune.

However the importation of capitals stumbled over two formidable enemies: the absolute lack of national credit on the foreign markets and the tenacious reluctance of opinion to accept strange elements. The restoration of our credit implied the restoration of our finance, a work of transcendence that will be narrated by a master pen in the last part of this volume: acknowledgement of the old national debts, levelling of the budgets, facilities and concessions for the capital answering this supreme call, securities and guarantees for every new fortune calling at the doors of our impenetrable castle.

This was to struggle against the popular criterion, to sally against the past and giving it an energetic battle, dislodge it from its traditional position causing it to rise to loftier regions. And they valorously fought against the monster.

When, in virtue of the faculties granted the Executive, the acknowledgement of the exterior debt was realised, like when the first subventions were granted to the foreign capitals consecrated to the railroads,—the most decisive and transcendental of our national industries, we have stated in former paragraphs,—an outcry of protest came from that opinion displaying as her flag the legendary prejudice that had been the cause of all our errors. The idea inspiring the new administrative program was solid enough to resist this onset: public power trusted on the future and the nation, and the nation and the future have assented to its opinion.

The definitive consolidation of the national credit, the perseverant work of the exact fulfilment of the financial engagements, even in moments of agonising crisis; the administrative action, firmer and vaster from day to day, thanks to the facilities of communication and the creation of credit institutions founded on a liberal legislation on this matter, extraordinarily increased this immigration. Foreign capital, on the other hand, is no longer for public opinion, the spoiler of our wealth, the irreconcilable enemy of our national energies; public respect and the law shelter it in its task, efficaciously advantageous for the development of national prosperity.

**Industry and the descent of silver.**—We have spoken of agonising crises. It is true: the nation and the federal treasury have had to resist the onset of a universal economical phenomenon, the lowering of silver, during this resurrection of public wealth.

But the depreciation of the white metal of which our country is to-day the chief producer, may it have affected or not the first and most stoutly consolidated of our national industries, mining,—a problem to be examined in another part of this work,—to be sure, has favourably influenced the progress of the other Mexican industries. This depreciation has not only constituted a *premium* for the exportation and therewith, for the exploitation of other products than silver, according to sensible statements of all

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**Monterrey.—Large "Cuahtemoc" brewery**



THE UNIVERSITY OF CHICAGO





the economists, but it has also fomented the existing industrial establishments and has forwarded those planted in this epoch, since naturally determining a surcharge on the prices of the wares imported into this country payable in foreign gold, it establishes a sort of protection in favour of national industry.

Thus the fall of silver has served as a stimulus for the development of industry; and the customs tariff, by a clever economical management, having exempted in some cases and never overcharged, the duties on importation of machinery and materials inherent to general labour, and salaries, payable in silver not having risen at the same rate as consumption, industrial labour has added new facilities to those already enumerated, in its accelerated development.

So a new, unexpected and persistent factor has come to strengthen the Mexican industrial evolution and to give it conditions of actual viability by the increase of home demand which marks the ascendent power of acquisition determined by the progress of the Republic.

**Situation of Mexican industry.**—It is a useless endeavour to trace the evolution of a people's industry in virtue of an inductive law. The industries appear not only according to the characters and tendencies of each aggregate, but also thanks to the elements which the medium,—in the amplest meaning of this word,—places at the disposition of each human group; in England, cattle breeding prepares the nation for its unrivalled industry of making wool stuffs; in the United States the colonial condition adapts the first inhabitants of the present North American republic to the standard industry of its contemporaneous development: naval constructions. In Mexico, industry passes from its domestic phase to enter into the collective one over the bridge of mining whose materials are supplied by Nature herself.

Mining evolution, encumbered during many years, gave not, however, as it ought to have done, an easy and immediate rise to the metallurgic industries. An unexpected fact, of a relatively recent date, came to determine the creation of these works. When in 1890 Mac Kinley's tariff was enacted in the United States and in virtue of the quote imposing high duties on the introduction of plumbiferous minerals, a notable diminution was observed in the expeditions Mexico had made till then to the foundries of the Northern republic because the working systems used in Mexico obtained no profit from the low standard ores.

The American fiscus suggested the idea of instating establishments like those which, beyond the river Bravo (Grande), utilised the raw materials supplied by Mexican mining the chances of the business were studied and the result was the organisation of companies and the realisation of the enterprise that met in the federal government, as also in the local ones, active auxiliaries favouring the new industry with stimulating concessions. In a short time, the mining foci of the country have begun to get peopled with foundries and Monterrey, Aguascalientes, San Luis Potosí and Chihuahua specially, constitute the stout settlements of a work already attaining a significant success.

More space than that allowed for a synthetic study like that contained in these pages would be required for the enumeration of the foundries established in the country during these years and an attentive description of each of them. For our aim it will be enough to mention one of the most important: «The Monterrey Iron and Steel Founding Company» with a capital of *ten million pesos* and a producing capacity of 130.000 tons a year (steel rails, iron for constructions, rods and bars), which may easily be extended to 165.000; the plant alone for the foundry and manufacture of iron and steel represents a cost of \$ 3.100.000 gold.

And here an interesting economical fact arises: we know that through the enormous progress operated in the United States in these last years, American metallurgic industry has entered into a vigorous competition with the European and that the Transatlantic peoples begin to import respectable quantities of iron and steel, either in the form of *pig-iron* or manufactured. The «Monterrey Iron and Steel Founding Company» we have just mentioned is on the eve of making an important sending to the United States. This fact has its logical explanation in the lesser cost of production fixed by the expense of silver, an interesting phenomenon available as a useful stimulus to national work. And, notwithstanding, our country



imports every year enormous quantities of American rails to supply its active progress in the construction of railroads!

Must we, really, include among the industries annexed to the metallurgical ones the coining of silver money which in Mexico is not exclusively destined for home circulation, but represents a product of constant exportation? During many years, financial penury obliged the governments to farm out the Mints established in the Republic; during all that time the coinage of circulating metallic species may be said to have actually constituted a private industry. The resolution of the financial problem has made it possible to ransom the Mints whose leasing weighed heavily on public treasury and so at present all the establishments of this class working in Mexico belong to Federal Government.

There are now fourteen Mints in this country (Aguascalientes, Alamos, Culiacan, Chihuahua, Durango, El Paso, Guadalajara, Guanajuato, Hermosillo, Mexico, Monterrey, Oaxaca, San Luis Potosí and Zacatecas), the most important of all being that of the capital of the Republic. This establishment,—we have referred to in one of the anterior chapters,—has been the object of special improvements having been endowed with modern machinery and apparatus. The coining office counts on six large presses for peso pieces and four smaller ones for fractionary pieces; the former coin one hundred pieces every minute, the latter one hundred twelve to one hundred fifteen. At present more than one million pesos are coined a month and from the foundation year of that Mint (1535) up to June 30<sup>th</sup> 1901, the silver value of the coins of white metal cast by that establishment is above *two thousand four hundred million pesos*. The value of the silver coins issued by all the Mints oscillates between *sixteen* and *eighteen million pesos* a year.

Will a day come when the slow decrease of the demand of the Mexican peso on its old consumption markets (Philippines, China, the Extreme Orient) will mark, as a distinguished Mexican economist, Mr. Joachim D. Casasús, thinks, a limit to the production of silver coins?

In Mexico, the word *industry* is habitually applied to cotton spinning and weaving. May be, this interpretation is due to the circumstance that, mining forming a branch apart and the textile industry being the first formally planted in the country by the viceregal government and the only one persisting amid the convulsions that agitated the country during the tiresome struggles consecutive to emancipation, the then directors of Mexican society concentrated therein their industrial program.

Resolutely protected since those times it continues being so, although not in so advantageous a form for the manufacturer nor consequently so disfavoured for the consumer as it had been formerly. All the modifications made in these last years in the tariff rates reveal a liberal tendency determining a reduction in the price of the product.

And still more has been done by public administration: In the year 1892 a strong crisis was felt in the country in consequence of an extraordinary fall in the value of silver; all the national interests suffered by repercussion the blow struck at this Mexican source of wealth; only the cultivators of agricultural products for exportation and the manufacturers of cotton tissues, came out gaining; the former because, their products being payable in gold, they obtained an increase of profit equivalent to the new type of exchange on the foreign consumption markets and the latter because this new type of exchange represented for their industry an elevation of the tariff rate. Federal government restored the equilibrium creating two orders of charges: one consisting of a duty on the exportation of agricultural produce and the other being a distribution impost (5 per 100 on the value of declared sales) on the cotton spinning and weaving mills.

The moment was come to verify whether that industry had deep roots; whether it was actually viable within the conditions wherein it had been operating up to then or whether, in the agonising situation the country was passing, it would fall down at the impulse of an ineluctable national necessity. The number of mills existing in 1892 was 132, and if credit had been given to those who under those circumstances foreboded the ruin of that industry through the equitable charge those establishments would soon have been devoured by the físcus. The facts will soon tell us how mistaken the alarmists were.

The cotton spinning and weaving industry has realised plenty of benefit (in some manufactories di-

vidends of more than 20 per 100 of the inverted capital have been distributed) attracting the attention of undertakers towards a business that is widening at the rate the product succeeds in competing in quality with the similar foreign one. The mills avail themselves of the raw material produced in the country; but that production not being sufficient for their normal needs they import a quantity of from 6,000,000 to 8,000,000 kilograms of cotton a year according to the bulk of the national crop. At present there are 133 manufactories working, with 591,506 spindles in motion; the number of looms amounts to 18,700 and that of hands employed fluctuates between 26,000 and 27,000. More than fifteen million kilograms of cotton were consumed in the second semester of the fiscal year 1900-1901 (from January 1<sup>st</sup> to



Mexico.—Mexican Cigar Company. Machinery hall

June 30<sup>th</sup> 1901) producing 6,926,022 pieces of calico or prints and 929,000 kilograms of thread. The whole of the sales manifested in the said semester amounted to \$ 15,172,219.

In exchange for this development, an economical fact is making its appearance which, for want of attentive observation, has been designated a crisis in the cotton manufacturing industry, being, however, nothing else than a manifestation of the very progress of that work: the paralysation of some of those mills. The author of the present study has said so in a national economical review.

«Examining the facts it has been discovered that the situation is due:

»Firstly. To an excess of production over the normal consumption of the nation; and

»Secondly. To a rude competition the new manufactories endowed with modern machinery and utilising the water currents for motor force are making the old establishments.

»Both causes have had their origin, precisely, in the excellent gains realised in that industry during the last years and which have preferently attracted the attention of undertakers and capitalists. What then occurred (end of 1900), must come to pass later or sooner, having been a necessary consequence of the unquestionable prosperity of those enterprises.

»The first months of uneasiness having passed, the manufactories, momentarily closed by the former of the mentioned causes, have renewed their works and if some have not yet begun again, it is because in the industrial struggle that has arisen, they are not in conditions to face competition.»

We have said *new manufactories*, «endowed with modern machinery and driven by water currents.» The progress of this industry has determined the creation of great industrial enterprises (most of them anonymous societies mounting their establishments at the very level of the newest of Europe and the Northern Republic. Santa Rosa and Atlitico are two establishments worthy to be catalogued in the inventory of a great industrial State.

The second of the two just mentioned is not yet in action, but it will not be long to be set in motion. It counts on a capital of \$ 3,500,000 and has at its disposal a hydraulic force of 7,000 horse. Around the vast edifice there is a peopled centre rising waiting for the near moment to enter into the combat of work, into the struggle of industrial labour which has substituted the old contentions carrying their outcry of misery and rebellion throughout the extent of the Republic.

The wool weaving industry has not walked with equal swiftness as that of the cotton textures, but notwithstanding, it reveals an undeniable progress in the number of the establishments and the quality of the product it offers for consumption. There are about twenty manufactories working throughout the country, among which we note in the first rank: San Ildefonso, San Fernando, Minerva, Victoria and Aguila. For the production of fine fabrics the raw material is imported from abroad, for, excepting two or three farms dedicated to the breeding of sheep at a large scale, the remaining only supply substances available for the ordinary classes. The value of the production varies between *five* and *six million* pesos a year.

A French manufacturer, Mr. Hippolytus Chambon, has consecrated all his endeavours to the reorganisation of a popular industry, silk spinning, which, up to now, it must be stated, has not succeeded in overpassing the limits of a laudable essay. The works are worthy of encomium and it will perhaps be necessary to wait for the future to consign a definitive rooting of this enterprise in the Republic. We must confide in the development of all the orders of national work, strengthened and oriented by the education and exertion of all the citizens.

In rigorous historical order, the paper industry is immediately following that of the textures. We have stated so in anterior chapters. Being strongly protected the paper industry could remain for long years in a state of lethargy not caring to improve its processes; in recent epochs strong capitals have been invested therein and home competition, since the tariff quote marks the limit of the foreign one, has determined an undeniable progress in the quality of the produce. The *San Rafael* mill, on the slope of Ixtacihual, whose trees and water it makes the best of and *El Progreso Industrial* are two modern establishments with new machinery, which have almost monopolised the whole of the national consumption.

Has the carge been able to restrain the development of the typographical industry converting the same into a satellite of the paper industry? Yes, undoubtedly; but the big obstacle met by typography in Mexico is constituted mainly by the analphabetism of the popular groups and the old educational deficiencies of the upper classes. Thus the daily publications destined for a large circulation have founp in artificial means the necessary compensation to considerable disbursements which the public is unable to satisfy directly. Official support is the ineludible consequence of a government program adopting compulsory teaching. In Mexico there exist popular papers; what is wanted are *Reviews* like those which on the other side of the Atlantic have served to democratise science spreading it with full hands among the crowds.

The popular classes,—we have just stated,—cannot afford the expense required for mental food. But carrying this problem to a closer ground, is this true? One feels tempted to deny it when one beholds the prosperity of another industry: that of the intoxicating drinks. Alas, here we must consign a persistent progress. The first place is occupied by pulque, the debated national liquor which its partisans state figuring with a sum of more than forty million pesos in the inventory of national wealth, a figure perhaps

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INDUSTRY

—♦♦♦—

**Monterrey. — Foundry n.º 3**









exaggerated, but quite impossible exactly to rectify. Then there come the spirits elaborated with all the various plants and fruits produced in the three characteristic zones of the Republic. What is the bulk of this production? The Secretary of Finance, in his concentration of the statistical statements, gathered for fiscal aims, offers us the following figures for the economical year 1899-1900: number of manufactories, 2,065; litres of alcohol produced, 34,840,597; totality of stills 2,615. But immediately he states in a suggestive note that those figures «express the summing up of the statements supplied by the manufacturers,» but «several of them not having made their declarations in due form, the figures relative to the litres of alcohol produced cannot be considered exact.» Thus the quantity is larger, doubtlessly much larger, than that stated in the fiscal papers. It is an immense, ever advancing wave, filling with shipwrecked our jails and our hospitals.

And will there be no remedy for this inexorable epidemic? Perchance there will be one, when other more hygienic drinks will come economically to dispute the passage of the terrible avalanche. Perhaps it is reserved to an industry that already figures among our large viable industries, to perform this salutary function: the manufacture of beer. It will not be so at once, because the price of the product does not yet permit to wage the battle. For the moment, national beer has defeated not only that which formerly came here from abroad, but has even restrained the importation of wine in virtue of a repercussion law, which in the consumption of products, in an analogous manner as in the distribution of taxes and in the crises of determined industries, hurts interests that seem remote. Beer industry reckons on a group of manufactories which elaborate a pretty appreciable product: *Monterrey*, *Toluca* and *Orizaba* are three establishments mounted with great carefulness, like the large breweries of Europe and the United States.

A similar fact is produced in the tobacco industry which has become ramified throughout the country and has transgressed the limits of the national territory to enter into an advantageous competition with the most appreciated foreign product, that of the island of Cuba. At the present moment from 5,000,000 to 6,000,000 kilograms of cigarettes and from 600,000 to 700,000 kilograms of cigars are elaborated of which from 300,000 to 400,000 kilograms, are exported with a value of from 700,000 to 900,000 pesos. The *Buen Tono* (good tone), an anonymous society established by the initiative of a man of the greatest energy, Ernest Pugibet, a Gascon who has once more put in evidence the obstinate character of his race; the *Cigarrera Mexicana*, another anonymous society in whose managing board there are figuring Spaniards and Mexicans; the *Tabacalera Mexicana* and *Balsa Hermanos*, of Veracruz, are brands already solicited abroad. This triumphant business will go farther still.

Will the same thing happen with the sugar industry? At the moment we are writing these lines, a great attraction movement is produced towards that industry; foreign companies are bying large extents of ground to consecrate them to the cultivation of the sugar cane and respectable masses of machinery are imported. However, the sugar problem is a universal problem wherein Mexico is unable to exercise a decisive influence. It would be sufficient for the industry to break the ring of a monopoly, a somewhat coarse *trust* but of certain results that has concentrated production in the hands of a few and settles for the product the price that is most convenient for the interest of the colligated. It would be a praise worthy industrial triumph.

And are those all the industrial manifestations of the Republic's economical progress? Not at all; they would not keep in the frame of these pages, nor are these, on the other hand, consecrated to a detailed description of the advance of each branch of industry: we are studying the industrial evolution of a people in relation to the general evolution of all its elements of organic life.

Certainly, in this summing up made from a bird's view, we might include the enumeration of several new labours that remarkably increase the national public wealth's active: the manufacture of jute, at Orizaba; that of glycerine and dynamite; that of fine crystal, at Puebla; that of glass, those of henequen (Sisal hemp); the *packing houses* (manufactures of meat preserves); that of improvement of wines; that of cement; of soap; quite a long series of new tasks, emerged at the push of the Republic's gradual



development, encouraged and favoured by the same facilities as national progress seconded by administrative management, has determined during this revealing stage of our national history.

**Future of Mexican Industry.—Conclusions.**—A mexican publicist,—and certainly, it is not an optimist writer,—engineer Francis Bulnes, has traced, in the form of a statistical table, the economical and social function of the development of our country's industry.

It is interesting to fix our looks on the following figures:

#### INDUSTRIAL AND COMMERCIAL RAW PRODUCE

INDUSTRIES	YEAR 1879		YEAR 1899	
Railroads . . . . .	\$	3,000,000	\$	38,000,000
Manufacturing, cotton tissues, tobacco and paper . . . . .	»	20,000,000	»	46,000,000
Sugar . . . . .	»	8,000,000	»	12,000,000
Alcohol . . . . .	»	8,000,000	»	14,000,000
Mining . . . . .	»	36,000,000	»	108,000,000
Total foreign commerce . . . . .	»	48,000,000	»	249,000,000
Federal and States' revenue . . . . .	»	28,000,000	»	72,000,000
Totals. . . . .	\$	151,000,000	\$	539,000,000
Difference. . . . .		\$	388,000,000	

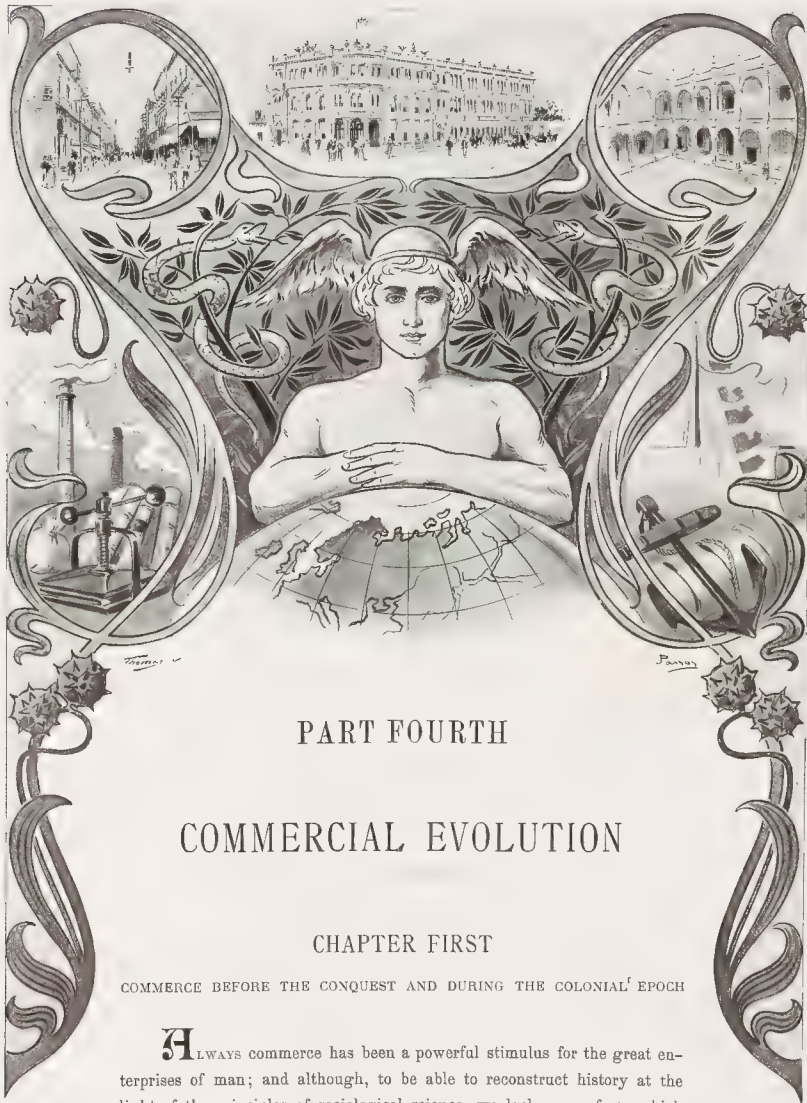
«Thus,—the author of the *Future of the Hispano-American Nations* is commenting,—Commerce, Industry and the State have been able to allay the *hunger* of the excessive middle class, revolutionary chiefly through the necessity to get a livelihood. From day to day the middle class offers less peril to promote revolutions; while it is eating, it will keep quiet, although it may be agitated by all the utopias, all the ambitions and the democratic fluids.»

It is a great work of social transformation that operated by the evolution of industry giving rise to a group, less and less numerous, of activities entailed on the general working of the Republic. The new middle class, a product of modern industrialism, is allied with all the interests that lend a proper life to Society and State. There is the settlement of the country's prosperousness, the seat of peace and the base of national solidarity.

And the economical problem? In the group of national industries there are some which overstepping the boundaries of the national territory have been able to concur at the foreign competition, while others, perhaps, are destined to exclusively supply the home demand. But home demand is a consequence of the growth of all the active forces struggling for their constant development. The country will then have, it has them at present, two industrial currents: one destined to lead towards the foreign markets the products of national wealth; the second to procure the Mexican population elements of life.

And a gigantic motor setting that machinery in motion: national Energy, transformed and steered towards the great destinies, which in modern societies, are marked by the admirable motto, amplified by one of the greatest national thinkers: LOVE, ORDER and PROGRESS.

Charles Diaz Dufoo.



**A**LWAYS commerce has been a powerful stimulus for the great enterprises of man; and although, to be able to reconstruct history at the light of the principles of sociological science, we lack many facts which our predecessors deeming them unimportant did not care to record, at the rate we advance in that study we shall see with greater clearness that the desire of lucre and specially of mercantile lucre has been the motive of many changes and transformations in the peoples and the cause of many wars and conquests which up to now have been explained by exclusively political motives.

In another order of ideas commerce has also been a great promotor of discoveries and advancements which man has brought about. Not going back as far as the ancient world or recording more than

desultorily, the Phœnician merchants who contributed so great a deal to make the peoples inhabiting the Mediterranean basin acquainted with one another, let us fix our attention for brief moments on well known facts of the mediæval epoch, cradle of civilisation and of the modern nationalities.

It was commerce that created the greatness and sustained the power of Genoa and Venice; when the mercantile sceptre dropped from their hands because navigators of other nations discovered new courses facilitating the access to the old markets, or till then ignored regions where exotic products were obtained cheaper and European wares found a more lucrative consumption, the proud Italian republics lost also their political importance which successively passed to other nations.

To the xv century, albeit in its final years, it was reserved to behold, with the discoveries of Christopher Columbus, Bartholomew Diaz, Nuñez de Balboa, Magellan and Vasco de Gama, the greatest transformation registered by History in this sense. These and other audacious navigators who close by followed them, more than by scientific aims, by mercantile purposes which by no means lessen or diminish their glory, caused civilised man, for the first time and in a positive manner, to know the planet he inhabited and which before that for ever memorable epoch hid from him more than half its extent lost in the *mare ignotum* of the old geographic charts or maps.

These discoveries almost coincided with the, under many conceptions marvellous, impulse human mind received in the xvi century, offering the admirable spectacle of the general development of man's activity in the most various fields of action: in that of politics with Charles V, Julius II and Leo X; in that of arts with Leonardo da Vinci, Michael Angelo and Raphael; in that of literature with Ariosto and Tasso in Italy, and in Spain with that pleiades of geniuses, that comprised Michael de Cervantes and Lope de Vega; in that of science with Mercator, Copernicus and Paré, all which determined what they have agreed in calling «Renaissance» because it might be said that, effectively, the occidental humanity of then came to new life out of the darkness of the Middle Ages, like the larve which, leaving the bud, emerges converted into a brilliant and agile butterfly freely to cross the space.

Amid this renaissance Spain found herself endowed by Columbus and the first expeditions which after him came to the Antilles not only with the riches of these islands but with the greatest part of the «Mainland» of our America. Following close after the discoverers there came the adventurers; and the most fortunate and boldest of all of them, Ferdinand Cortés, as history preferrently calls him, had the luck to subjugate the Aztec empire and the vast territory that was denominated «New Spain» and was to be converted into modern Mexico.

However, before looking what Spain met here, let us see what she herself brought in the matter in whose study we are engaged; or, in other terms, let us examine, ever so slightly, the economical conditions of the conquering nation.

They had just accomplished the definitive expulsion of the Arabs from Spanish territory and through the marriage of King Ferdinand with Queen Isabella the political government of the Iberian peninsula had become unified. It seemed, therefore, utterly urgent to unify likewise the nationality herself composed of so diverse and various elements that sometimes there resulted an antagonism.

Did the Spanish politicians not understand it so or did they choose as unique means to attain that purpose, the consolidation and strengthening of the religious band? This is no opportunity to discuss the matter; let us only state as a doubtless and verified fact that all the transcendental measures of that epoch seem inspired in the wish to realise the religious unity at any rate and by all means. The wholesale expulsion, first of the Jews and then of the Moors who formed the laborious and industrial element of the nation; the wars sustained in Germany and Flanders by Charles V and Philip II and whose character was an eminently religious one; and above all, the institution of that formidable tribunal of the Holy Office, are characteristic facts of the dominant spirit of the politics of the kings of Spain, from Ferdinand and Isabella to the accession of Philip V. All the crown's pursuits during that epoch seem to



have been concentered on freeing their subjects from the contamination of Reform and heresy, although it would be necessary to neglect the economical interests and to steer all the live forces of the social organism towards the wars that needs must be waged in many parts of Europe and against many nations at once. Agriculture, industry, commerce, science and, in one word, any element indispensable to constitute material welfare without which political powerfulness is needs transitory and ephemeral, did not mean anything nor was there a person who minded those things: the triumph of the faith, the splendour of the arms and to realise both aims, the absolute concentration of power in the hands of the king, completely suppressing all individual initiative and choking every germ of political and economical liberty, such were in those times the ideals of the nation whose representatives in this part of America were Ferdinand Cortés and his companions. And the economical improsporousness of the mother-country affecting the people and the government, and the error becoming more and more deeprouted, that wealth consists in the possession of the precious metals in the shape of coins, an immoderate craving for exploitation, without truce or pity, completed the complex of the leading ideas of the gigantic colonial enterprise which the discovery and submission of America signified for Spain and where, under the economical aspect they did not care for the development of the mother-country's industry or commerce, but they sought a source of precious metals in order to satisfy the needs of the king's treasury and to enrich private persons.



Phoenician ships

Here the land was peopled by primitive races organised in divers tribes and although some were already sedentary, they had scarcely begun to get out

of the age of polished stone reaching that of brass, but not yet attaining that of iron. The most important of these tribes, the *meshica*, inhabited, with the *tlatlolca* and the *acolhua*, the valley of Mexico and had constituted an empire under the form of an elective monarchy. Although the *meshica* shared the possession of the soil with other independent peoples, like the republic of Tlaxcala and the Kingdom of Michoacan, they exercised a remarkable predominion over the greatest part of the territorial extent that afterwards formed New Spain, if we except the North, beyond the river Santiago, dominated by quite barbarous and savage tribes, and the far Orient, beyond the isthmns of Tehuantepec, mainly peopled by the Mayas. Therefore and because about the Aztec people we have got fuller news although not exempt of exaggeration, to the same we shall mainly refer our exposition.

The most important articles of the Indians' commerce which was merely by land, were cacao, origin of the beverage now used all over the world, the cotton and feather tissues whose beauty has been highly extolled by all who saw them; cochineal that supplied the red colour to dye the cloths, and copal and amber whose aroma was spread in the *teocallis* and in the houses. The mineral products, gold, silver, copper and tin were also objects of manifold operations; but more than these articles, maize and the various products of the maguey are worthy of mentioning, although not for the value of every piece of them, but for the plenty of their produce.

The former which is still constituting the base of the alimentation of three fourths of the Mexicans,



not only supplied the old inhabitants a nutritive corn, but a sugar little inferior to cane-sugar. From maguey they extracted a saccharine liquid which when fermented produces the intoxicating drink they called *neutle* and which we know to day by the name of *pulque*; with the entire leaves they covered the most humble dwellings and crushing them they obtained a pulp to make paper with; of the fibres they availed themselves to make cords and common clothes and in sum, as a distinguished historian has put it «the maguey served the Mexicans for food, drink, dress and material to write on.»

The various climates of the land called New Spain, a result not of its geographical latitude but of the increasing altitudes of the soil, from the two Oceans up to the central tableland of the cordilleras, offered man the most divers products: cacao, cotton and vanilla on the coasts, maguey on the high plateau and maize on all the inhabited altitudes. A current of barter must naturally become established between the high and the low zones, as a result of the various nature of the respective field fruits and secondary currents between the centres producing metals or artifacts and those consuming both, and between the fields and the settlements. Cotton, the brilliant feathers of the birds inhabiting the tropical forests, and the furs of the wild beasts hunted by the savage of the North came to the markets as raw material for the indumentary industries, so much cultivated by the *meshica* and were bartered for blankets, pottery, metal trimmings, or cut stones, weapons, perfumes or flowers.

As a sort of money, very imperfect, indeed, it may be said, by the frequency of their use, they employed native gold, in powder and in grains, put into transparent feather quills, copper or T shaped tin plates, cotton tissues of various classes and grains of cacao reckoned by *Xiquipilli*, equivalent to eight thousand almonds.

The Aztec merchants undertook long and jeopardous travels as far as the boundaries of Anahuac and even into the countries situated beyond them; the men dedicated to this trade, laden with wares and joined into caravans, merchants, slaves and servants, walked enormous distances, stopping every day at the shelter of large vans placed at appropriate intervals exclusively with the aim to serve as halting places.

The merchant served the Aztec rulers to acquire knowledge about other peoples, to collect tributes and for other political aims and with that motive he assumed a role bringing him privileges and distinctions. «It is certainly an anomaly in history,—an illustrious historian says,—that commerce should open the road for a preeminent social position in a not quite civilised nation where the names of *soldier* and *priest* were as a rule the unique titles to become respectable. It forms some contrast with the past rule of the most cultured monarchies of the ancient world in which a person's nobility is supposed to be less dishonoured by a life of otious abandonment or frivolous pleasures than by the exercises that promote at the same time the prosperousness of the State and of the individual. It must be confessed that civilisation, while it unroots many prepossessions, in exchange creates many others.»

The Aztec empire's capital was the most considerable commercial centre of Anahuac; there the tributes came affluent, there the princes and lords lived, and on its markets there were to be seen the artifacts curiously worked in the town and the fruits carried on their shoulders by the slaves from remote provinces or in vessels crossing the lakes and canals. There being no shops, all the movement was concentrated in the *tianquistli* or fair held every five days. The barterers were made in perfect order, thanks to the separation of the articles by groups, according their analogy, and to the vigilance of special magistrates (1).

It is impossible to settle, with some probability of exactness, the amount of the commerce of the ancient pleoplers of our soil. The endeavour of the conquerors to enhance the value of the land they had dominated led them to state exaggerated figures whenever the question was to fix, however approximately, the importance or riches of the lands they had just incorporated with the crown of Spain; and

(1) In the part of this work consecrated to public finance the reader interested in knowing them will find some more particulars about Aztec commerce, whose relation has seemed us more proper of that place.

even when the facts were easy to appreciate, as, for instance, the number of inhabitants of old Tenochtitlan, the capital of the subjugated empire, an enormous divergency between the relations of the conquerors is to be observed.

Notwithstanding, historical criticism has been able to point out as circumstances adverse to a great mercantile development, in the first place, the general backward condition of the primitive groups, then the lack of money properly so called, which must needs reduce commerce to the system of simple barter or exchange of products, and the want of animals and other means of transport, a most serious obstacle for an exclusively terrestrial commerce exercised on an extense, mostly mountainous, territory. That there were, in spite of all, transactions reaching a bulk of some importance and especially that there was free contract and what might be called a mercantile organisation, there can be no doubt, according to the facts we have briefly stated and in conformity with which some notable authors characterise the Aztecs saying they constituted a people of merchants.

\* \* \*

What did the Spanish conqueror do with all this? He destroyed and demolished it, as he destroyed and demolished all he met in his way, incurring in the grave error pointed out already in other parts of this book, not to endeavour, when submitting the primitive peoples, to promote anyhow their weal and prosperity, but simply to exploit the new conquests on behalf of the mother-country and her children as it



Galeon or ship of the XVII century

was authorised by the current ideas of that epoch and imposed with ineludible exigency by the economical necessities and the impoverishment of the king and his vassals. Hence it succeeded that nothing of what existed was preserved in order to improve it, but, by force and violence, religion, language, methods of government, systems of cultivation and labour, and, in sum, a whole new social organisation was imposed wherein the Indian performed no other role but of a passive unconscious and submissive tool to pull out of this hard soil the riches which at the beginning they thought were at the arm's length to be caught without any exertion.

And to what means had they recourse, in matter of commerce, to assure the mother-country the benefit they expected from the colonies? These were forthwith shut to all foreigners, who were forbidden to come to America and to trade with it; and in Spain whence all was to come and whither all was to go, it was not allowed to trade but by determined persons, in a determined quantity and form, and through determined ports; that is to say, they erected into an absolute maxim prohibition, restraint, monopoly. On this base there rests all the complicate scaffolding of the legal dispositions referring to commerce between Spain and her colonies, necessary to maintain that system on foot against the foreigners, against the inhabitants of the colonies, against the Spaniards themselves. Let us look more closely at those dispositions.

\* \* \*

Few years after the discovery of America and under the authority of the Supreme Counsel of the

Indies the Catholic Kings created the famous «Casa de contratación» (Bargain house) of Sevilla, a kind of administrative body with judicial faculties, charged to decide in all things relative to the commerce of the Indies and to watch the fulfilling of the numerous and complicated laws regulating that commerce. Sevilla and Cadiz were granted the monopoly of sending merchandises to America and of receiving them from there. Many laws were issued besides referring to the conditions of the ships and the quantity and class of wares they might load and, at last, in 1561 (1), for fear of the corsairs who infested the seas and of the ships loading and unloading in secrecy on the coasts of Spain or Portugal, eluding the payment of the royal imposts, they even ordered no ship should leave Cadiz or Sanlúcar but in a fleet under the «penalty of losing the ship and all she was carrying» and that every year two fleets should sail with ships for the «Mainland» and New Spain.

Hence the system of fleets arose that lasted until 1778, although it must be stated that while it was in force and ever since the first years following the conquest there arrived at Mexico single ships of small tonnage called *avisos* whose chief aim was to carry the correspondence but which were authorised to load short quantities of determined wares. Besides, some men of war were wont to come and bring quicksilver which was sold to the miners for account of the Royal Treasury that had the monopoly thereof and to carry sums to the mother-country; it must also be remarked that from 1739 to 1750 when the maritime wars hindered the fleets to set out, some neutral vessels were allowed to come to America.

All these vessels must anchor precisely at Veracruz, a most bad anchorage which not having any condition for a harbour, however, came, at the shade of the monopoly created in its favour, to be the first port of our country. Further on we shall see what sacrifices it has been necessary to impose the Mexican Republic's treasury to keep it in that rank.

The commerce, or rather, the communication with the other colonies, was limited to the sending when the wars hindered the direct relations, of their fruits to the mother-country, across New Spain: commerce between them, that is to say, the exchange of their produce, was severely prohibited and when between New Spain and Peru, the other important colony, an attempt at commerce began to be established it was forbidden without delay because the wall that closed every colony ought to be surmountable only for Spain and the privileged Spaniards.

The commerce with China and the East Indies was exclusively carried on from the Philippines to New Spain and through the Manila galeon, improperly called «*nao de la China*» (China vessel) whose importation load as a rule consisted in cotton tissues and silk, fine china, plate, spices and aromas. The voyage of the vessel which could not anchor but at Acapulco, lasted at the beginning five or six months but by the advancements in the art of navigation came to be reduced to three or four. The galeon ought not to bring merchandise of more than five hundred thousand pesos value (2); but generally it imported for a million and returned to the Philippines carrying a million and a half or two million pesos in silver and a small quantity in cochineal, cacao of Guayaquil and Caracas, oil and Spanish stuffs (3).

A most important change was effected in the common form of inland mercantile transactions with the introduction of money which took place after the conquest. The Spaniards, accustomed to use their own, introduced into the colony the names, values and subdivisions that were familiar for them; but not having sufficient Spanish money, nor a mint therefor, they began to make their operations with metals

(1) Some respectable author points at February 13<sup>th</sup> 1552 as the date of the Royal letters patent ordering the establishment of the fleets; however, among the remaining authors it is a current affirmation that it happened in 1561 and so we let this date subsist.

(2) This is what all the historians state; but law 6, title 45, book IX of the «*Recopilación de Indias*» provided that from the Philippines to New Spain wares should not be brought for more value than two hundred fifty thousand pesos in every year and that the balance of principal and gain should not exceed five hundred thousand pesos of eight reals one. Practically, perhaps, the rigour of this law became moderated, without derogating it.

(3) The value of the silver exported by private persons was to correspond to the value of the imported wares and the gains. Hence, to be sure, the origin of the phrase *dar á corresponder* (give to correspond) by which they designated the sending of wares from the Philippines to New Spain.



in bullion and instead of handing, for instance, a castilian crown, they gave the weight of a crown. Thus the custom was introduced to ask for a thing a certain weight (peso) of the precious metal offered by the buyer and hence arose the use of the word which still serves to designate the unity of our monetary system.

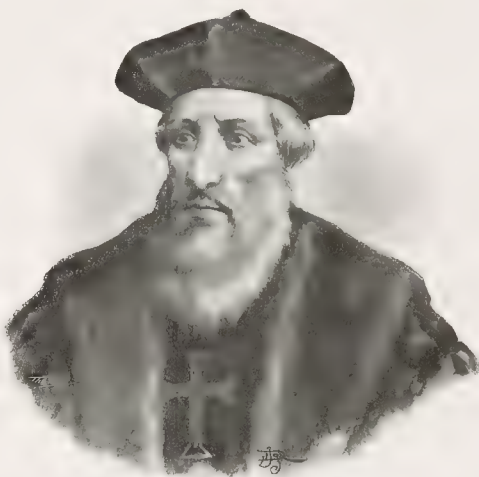
This irregularity was however gradually being corrected, first by the marks which the royal officers stamped on the metal plates certifying the standard of each and that the king's fifth had been satisfied and afterwards by the regular coinage begun towards 1537. A little later copper money was coined but it was so stubbornly rejected by the Indians in spite of the penalties imposed on him who refused to receive it, that the Spaniards themselves at last employed as divisionary money the cacao which the Indians had not abandoned in their transactions and this use persisted at some places until the xviii century.

Another factor of mercantile progress will have consisted in the introduction of beasts of burden and vehicles of transport of which the Indians were lacking, as also in the importation of plants and seeds unknown before and so important as are wheat and rice; but nothing of all this destroys or even lessens the character of commerce during the colonial epoch, all founded on the most unattackable restraint and monopoly both in the mother-country and in New Spain, because, importation being limited in time and in quantity, forestalling of the chief wares that came here, must be, and effectively was, a necessary consequence of the system. «The ecclesiastical communities, —baron Humboldt said,—are, after the Manila merchants, those who take the largest part of that lucrative commerce: these communities employ nearly two thirds of their capitals in what they quite improperly call *dar á corresponder* (give to correspond). As soon as the news arrives at Mexico of the galeon having been descried on the coasts, the roads to Chilpancingo and Acapulco become covered with people and the merchants make haste to be the first to trade with the supercargos arriving from Manila. Ordinarily some powerful Mexico firms join to buy all the wares together and it has happened that the whole cargo was sold before any news of the galeon had been known at Veracruz.»

As for the commerce with Spain, in view of the insalubrity of the port of Veracruz, it took root at Jalapa, beyond the zone of yellow fever or *vomit*; there they effectuated the sale of the merchandises brought by the fleets and since 1720, even a *fair* became legally established in that town.

«This order of things,—Luke Alaman says, speaking of the system of fleets and fairs,—gave rise to a double monopoly: that practised by the Cadiz and Sevilla firms which made the cargos and that which afterwards the America merchants assured themselves coming to an understanding to possess themselves of certain articles whose price it was in their power to raise at their will, because they were certain a new cargo would not come in a long time; hence there arose the high prices those wares attained, especially when the maritime wars hindered for some years the arrival of the fleets. This gave a motive for the arbitrary providences the viceroys sometimes made, fixing on behalf of the consumers the prices of sale, as the second duke of Alburquerque did at Mexico in 1703.»

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Vasco de Gama



Another thing that greatly hampered commerce, besides the charges that weighed upon it and of which we shall speak further on, was the insecurity of the seas where pirates and the ships of the nations in war with Spain were lurking the passage of the vessels in order to take the cargo and destroy the vessels. Mentioning only the heaviest of the losses thus suffered by the Spanish commerce, we may record the destruction, at the beginning of the XVIII century, of the fleet commanded by the count of Chateau-Reinaud, whose cargo had a value of more than seventeen million pesos.

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To any mind cultivated amid the ideas current in this twentieth century of the christian era it will seem impossible that such principles had been able to prevail in Spain from the first years of the XVI century up to the last of the XVIII, that is to say, during more than two hundred and fifty years, there not appearing during so long a period, a single person, as an exception, rising against so absurd a system that did not even favour the mother-country. If at least they had permitted every Spaniard, excluding all foreigners, freely to trade with the American colonies, they would have succeeded in creating or protecting the Spanish industries; but the Spaniards themselves had not that liberty of sending their products to America, if they had not obtained a privilege and that privilege, whose cost, in imposts for the king (and it may be supposed in bribes to his officers) was very high, must be amply remunerative in order to be accessible. In his turn the Spaniard who came here to enrich himself and became persuaded that the mines and the lands were difficult to exploit without the other most odious privilege called the *commenda* (that is to say the blood and life of the Indian) and which not all could afford to obtain, consecrated himself to get at the movable riches, became converted, under the influence of the medium and of the ideas predominant in the mother-country, into the *abarrotero colonial* (1) whom an original and distinguished contemporary sociologist has painted with a masterhand in a recent book, although with the exaggeration inherent to journalistic polemics (2).

It seems incredible, we repeat, that such a state of things was prolonged for almost three long centuries and if anybody doubts it, let him consult the Laws of Indies. There he will see so singular dispositions as those prohibiting direct commerce between Spain and the Philippines and between these and the American colonies excepted New Spain (3), as those which formidably restrained traffic between the Spanish possessions of the Canarian islands and the Indies (4); as those prohibiting to carry to Peru «China goods» which it was allowed to bring only to New Spain at the condition to be consumed there (5); as that which forbade the vessels «that started from Callao and Guayaquil bound to Nicaragua and Guatemala, with the pretext to go for tar and other things» to pass to Acapulco «and load China ware for a large sum of silver they carry, making use of many diligences and frauds (6);» and as that which set an end to the traffic between New Spain and Peru and which being characteristic we place here in its literal text:

«It was permitted that from Peru to New Spain two vessels went every year to commerce and traffic up to the quantity of two hundred thousand ducates which afterwards was reduced to one, with certain qualities. And because the trade with China goods has grown excessively in Peru, in spite of so many prohibitions convenient for our royal service, weal and utility of the public cause and commerce of these and those kingdoms; having preceded a last resolution of the viceroy, count of Chinchon, and decree of

(1) In Mexico they call *abarrotero* the Spanish *abacero* or victualler.

(2) The engineer, Mr. Francis Bulnes, although he writes books, is a polemist by nature. The book we are referring to is titled: *The future of the Hispano-American nations before the recent conquests of Europe and the United States*. Mexico, 1899.

(3) Laws V and VII, title XLV, book 9.

(4) All the laws of title XLI, book 9.

(5) Laws LXVII to LXXIII, title XLV, book 9.

(6) Law LXXVII, *ibid*.

Finance to absolutely take away the opportunity: we order and enjoin the viceroys of Peru and New Spain to unfaithfully forbid and hinder this commerce and traffic between both kingdoms, by all the ways and means that may be possible, and that there may be none by other ways; for We by this present prohibit it, firmly keeping this prohibition and continuing the same further on (1).»

And yet we wonder, nearly a century was to pass since the independency of Spanish America, before the nationalities formed with its fragments have begun to approximate one another and to procure to create between their interests a solidarity which the colonial system rendered impossible because, by all means at its reach, it hindered any contact between its former colonies!

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The explanation of this system is, however, very easy if we behold what was passing in Spain herself. Agriculture being abandoned to such a degree that the population, though it was sensibly diminished since the times of Charles V, was obliged to consume wheat from Poland brought by the Dutch; industry being ruined not only by the expulsion of Moors and Jews, but by the despise with which the so called mechanical occupations were beheld, their practice being incompatible with the rank of a *gentleman* and a *nobleman*; commerce being reviled as if it were almost a degrading business, Spain's economical ruin became deeper and deeper. Such a social state grew complicated with that of public finance which could not be more de-



Meshica merchant

The tianguishti or market

plorable. The deficiencies which the treasury inherited from emperor Charles were increasing under his successors of the house of Austria and the abyss deepened more and more through the continual wars, there not being, to fill it up, anything else than the precious metals from America which not even remained in the mother-country, but directly passed on to Holland, France, England and the other producing nations which in reality were those that sent the Spanish colonies their products and artifacts, either availing themselves of Spanish merchants or of bribery, subornation or smuggle.

As a logically irremediable thing, usury in all its forms had become implanted in that impoverished and bloodless people and from the lowest of the *hidalgos* up to the king all lived in the hands of the *agio* which as well seized the last bits of the riches of the noble as the relics of the royal treasury obliged to lease the taxes thus hindering their alteration or modification, to have recourse to voluntary loans and when these were no longer possible, because no engagement was fulfilled, to forced loans which, while ruining many private persons, mostly foreigners, ruined the nation too. What more? Among other expedients to get resources, recourse was had even to the falsification of money, not only in the form of forced circulation of copper money at a value it had not, but to that of the clandestine lowering of the standard of the silver coined in New Spain and which was carried into effect by secret orders issued by the peninsular government.

(1) Law LXXVIII, *ibid.*

If such was the situation there, how could it be expected the American colonies should be luckier than they were, when, we once more repeat, what they were asked, what was wanted from them by all means, was, they with their gold and silver, should pay all the wars, fill up all the deficiencies and enrich all the individuals of a people lacking all the economical elements indispensable for life to such a degree that many private persons, destitute of resources and not having the custom or the possibility to work, entered into the convents merely to assure their bread of every day?

That situation began to be modified with the accession of the first monarchs of the house of Bourbon. King Philip V and his minister Cardinal Alberoni, the former animated by the spirit of his grandfather Lewis XIV and the latter nourished with the teachings of Richelieu and Colbert, abandoned the traditional foreign policy of Spain and consecrated themselves to reconstruct, by means of wise measures impossible to enumerate here, agriculture, industry, navigation and commerce.

That spirit could not fail to extend over the colonial system; but it was under the reign of the illustrious monarch Charles III when the improvements acquired their greatest enlargement; and not to overstep the frame traced by the subject matter of our study we must abstain from referring to the expulsion of the Jesuits, or to the organisation of the Royal Finance and the Intendencias, or the other most important and radical political and administrative reforms that characterise the epoch of men like Florida-blanca, Aranda and Campomanes who were aware of the urgency of a change in the orientation of the colonial policy in order that the impoverished mother-country might obtain from her American possessions the elements of life she lacked completely.

For this end it was necessary to appeal to more liberal and humane methods and this was the aim of the royal pragmatic of October 12<sup>th</sup> 1778 called of «Free Commerce», because it granted numerous mercantile franchises, abolished the fleet system, opened for traffic several Spanish ports in the Mediterranean and the Atlantic, as well as on the Antilles and on the Mainland, reduced a good deal the imposts on the Spanish wares that came to America, completely exempted of duties certain colonial products when they were consumed in the mother-country and considerably abated others. It also permitted under certain conditions that from the Balearic and the Canarian islands vessels might come to the Indies and although the restrictions and even the prohibitions subsisted in a good number, with the intention to protect the Spanish marine and industry, commerce, until then enchained, could now move with relative ease.

Certainly at first New Spain and Venezuela remained excepted from these benefits and they were only offered «a particular arrangement and the permission from 1779 for the yearly registers of *quicksilvers* to carry to Veracruz the fruits and manufactures of these kingdoms with the same reduction of duties or exemption from them as will be specified in this concession (1);» but the first step was made and by little and little the exceptuated colonies, in spite of the resistance of the interests created at the shade of a secular monopoly, entered into the new system, until the royal decree of February 28<sup>th</sup> 1789 extended to them without any limitation, the benefits of free commerce.

On the other hand, the treaty of Utrecht, of June 13<sup>th</sup> 1713, had given England the exclusive right of doing in different parts of America the traffic of negro slaves and that of «bringing every year a vessel of five hundred tons laden with goods;» and although this pact was not fulfilled for the moment, it was carried into effect later on, «being a fecund source, a Spanish author says, of smuggle of many millions of pesos a year that was carried on in the Mexican Gulf and through the isthmus of Panamá, of which Jamaica always was the great deposit (2).» Some times, and always because of the incommunication produced by the war, the expeditions of no prohibited effects were permitted, in Spanish or foreign ships, from the ports of the neutral powers directly to those of Spanish America; and lastly the celebrated «Casa de Contratacion» which since 1717 had been transferred from Sevilla to Cadix, was extinguished by Royal decree dated June 18<sup>th</sup> 1790.

(1) Article VI of the pragmatic.

(2) Joseph Maria Zamora y Coronado. *Biblioteca de Legislación ultramarina*. Madrid, 1844.



We have not yet said anything about the Consulates of Commerce and it is time to repair this omission. Fundamentally they were courts administering mercantile justice and were composed of the Prior acting as president, of Consuls who were the Judges who accompanied the Prior and Deputies or Conciiliars who, while having certain functions of their own, acted besides as substitutes of the Consuls. These corporations were formed out of merchants who ought not to be foreigners nor sons of such, nor their servants nor clerks; they were chosen by the remaining members of the mercantile guild possessing determined conditions of property and capital, not keeping open shops and it appears the first Consulate was instituted at Burgos (1494), being soon followed by that of Sevilla (1502), beside and as a complement of the «Casa de Contratación.» The mercantile causes that were judged and among which there



Vessels of the middle of the xviii century

were included those of failure, were to be decided *á verdad sabida y buena fe guardada* (on truth known and good faith kept), that is to say outside of the most complicated and entangled juridical formulae prevailing in Spanish proceedings and which as an incorrigible hereditary evil is still afflicting the peoples of Iberian origin. Beside these judicial incumbencies other merely administrative ones were intrusted to these Consulates; this confusion and promiscuity of functions appears to have been another characteristic feature of which Spanish organisation never became corrected until when the Cortes of Cadix, in the Constitution of 1812, provided the separation of the public powers and clearly determined, what corresponds to the legislative, the executive and the judicial one.

Consulates like those of Burgos and Sevilla were created at Mexico and at Lima since 1592 and they were allowed special funds taken from the imposts weighing on commerce, for the expenses caused by the remuneration of the Prior and the Consuls and that of their employed among whom there were reckoned the indispensable clerk and the not less necessary assessor; because, in spite of all attempts to the contrary, lawyers of every description made themselves necessary in all branches of administration. In Mexico the peninsular commerce was always divided between *viscaínos* and *montañeses* (Biscay and San-



tander people) who with their troubles on one hand, the interference the Consulate took in the administration of the colony on the other, frequently perturbed or hampered the exercise of the not very absolute viceregal faculties; for this motive eximious count Revilla Gigedo, in view of the abundance of judges and courts existing in Mexico, pointed out the convenience of suppressing the consulate established in the capital of New Spain suggesting their establishment in other towns and distributed at convenient distances.

Perhaps to this suggestion it was due that in 1795 a Consulate was ordered to be established at Veracruz, endowed with ordinances and regulations taken from those which had been approved for the Havanna Consulate the year before. Be this as it may, the fact is, between the two corporations, that of Mexico and that of Veracruz, an emulation was produced which seems to have resulted in benefit of the public. At least each Consulate procured to improve more than the other the services it was intrusted with, among others the part of the road between the port and the Capital, assigned to each of them, and since 1802 in Veracruz they published the most trustworthy statistical facts that have come to us about the foreign commerce of New Spain.

Before examining these and trying to reconstruct those which are not stated in special statistics, let us say some words about the taxes that weighed upon the commerce of the colonies, an also very entangled matter, through the frequent mutation, to be sure, of the precepts regulating the same.

During the first years following the conquest the commerce between Spain and the Indies was quite exempt from charges; but this system did not last long, divers and complicate imposts being soon established, the chief of which were those known under the names of *avería*, *almojarifazgo*, *toneladas*, *almirantazgo* and *alcabala* duties, whereof we are going to give a brief idea.

The *avería* (or *haberia*) was chiefly destined to cover at an average among the owners of merchandise the salaries (*haberes*) and other expenses caused by the ships of the royal navy conveying the fleets and consisted of so much per cent of the value of the gold, silver, sums and goods that arrived at the Peninsula or left it, even if they belonged to the royal treasury. At the beginning it was of half a per cent; but with the time, it was aggravating to such a degree that having practically reached 14 per 100, it was provided in 1644 (law 46, tit. IX, book 9 of the *Recopilación de Indias*) that it must not exceed 12 per 100, and that if this quatum was not enough to cover the expenses to which the *avería* was consigned, the rest should remain at the charge of public treasury. Probably the abuses that accompanied the collecting, existence and distribution of that special fund, went on and grew by the fact that this rent had been leased or given in *contract*; the fact is that in 1660 it became substituted by the assignation of a fixed sum to be paid by the colonies and of which New Spain's share were two hundred thousand ducates silver for every fleet, until at the beginning of the XVIII century all collection was ceased and the expenses of the ships conveying the fleets were made to the charge of what we should call to-day the ordinary budget of the navy. However, in 1732, in conformity with a royal decree, some taxes proposed by the commerce were introduced because the Treasury was unable to defray the expenses of the vessels destined to the protection of the fleets and convoys of the Indies and offered to contribute with four per cent of the gold, silver and fine scarlet. At last, it the epoch of «free commerce,» *avería* was reduced to one half per cent only on gold and silver.

The *almirantazgo* duty was an impost or charge established on behalf and as an endowment of the post of Admiral of the Indies primitively equal to that of Admiral major of Castile and created in favour of Christopher Columbus and his descendants who, however, since 1547, were prohibited to exercise their office in any part of the Indies and to receive any duty for that reason, «because it is our will (emperor Charles said) that he shall only wear the title and name of Admiral of the Indies.» In exchange and as transaction, the descendants of the discoverer of America were allowed a pension of 17,000 ducates, equivalent to 23,437 pesos fuertes which were still paid in 1830 by the treasuries of Havanna, Portorico and Manila.

Thus, then, since 1547, nothing was paid to the Admiral of the Indies, but only to that of Castile who took from the vessels, both when loading and unloading, one mark or one hundred reals for every hundred tons and from those of less tonnage, one real for every ton. Besides, since 1737, when the dignity of Admiral of Spain and the Indies was created for Infant (prince) Philip, the payment of admiralty duties was established, being exacted in very divers quotas on numerous merchandises, on the capacity of the vessels, at the rate of one peso a ton, and on sums of gold and silver, ten reals for every 1,000 pesos. Although the post of admiral soon became vacant, the duties continued being exacted on behalf of the treasury until the introduction of «free commerce,» but they were restored and even much aggravated in 1807, under the reign of Charles IV who made the prince of the Peace Admiral and president of the Counsel.

The duties of *almojarifazgo* which are spoken of as early as in the Código de las Partidas were due both in Spain and in the Indies and not only at the departure, but also at the arrival of the wares. They began to be exacted since 1543; they suffered various alterations and at length, from 1566 to come, the following quota became uniform from Spain to the Indies: when leaving Seville, 5 per 100 of the value of the goods and the double, or 10 per 100 of wines; and at the arrival in the Indies 20 per 100 the wines and 10 per 100 the other goods. Inversely when leaving the Indies they paid 5 per 100 and the same amount when arriving in Spain. All this without prejudice of *alcabala* (excise), we shall speak of further on and of the remaining duties.



Philip V

The gauging and appraising was done at first with great minuteness and many formalities; but afterwards it became established that the bales should not be opened or unpacked, no sworn relations requested, but only a general declaration of the contents of each package; this giving rise to frequent conflicts between the merchants and those who took the product of the *almojarifazgo* in contract or lease.

*Tonnage* duty was established in 1608 for the benefit of the *University or brotherhood of navigators or seafarers* of Seville and was not equal for all vessels, but variable according to the importance of the American ports they were bound to. Like all other imposts this became aggravated and complicated with the time; according to the statement of a Mexican historiographer, the sum paid by every ton of the ships arriving at Veracruz after 1775, was as follows: 1,406 reals vellon of palming, 1,406 for small stowage, 1,406 for heavy cargo and 671 for fruits (1).

Besides these imposts there was that of excise, due at the rate of 10 per 100 of the value of the wares

(1) *Mexico's foreign commerce from the conquest up to the present day*, by Michael Lerdo de Tejada. Mexico, 1853. Of that excellent work and of the *Dictionary of Ultramarine Legislation*, by Zamora, already cited we have chiefly availed ourselves for this part and the following of the present chapter of our study.

arriving in Spain, for the *first sale* made thereof, and in the colonies it became uniformed at 6 per 100 of the sales. It would be too long a task to relate the difficulties, abuses, stumblings and embarrassments caused by this impost and which we shall be obliged to mention when studying colonial finance; for the present and to form an idea thereof it is enough to say the territory of New Spain came to be divided in about eighty *excise districts* in each of which the first sale caused a new excise and that the Commerce of Mexico, as an alleviation, asked for the establishment of the inland customs houses which it has not been possible to abolish earlier than in 1896, because in establishing them a means was found of getting rid of the vexations of the fisk and of him who contracted this rent, it ordinarily being the Consulate itself.

Like all the rest, the «free commerce» system somewhat modified the collection of those heavy imposts; but with more or less modifications they were restored afterwards and besides constituting large obstacles for traffic they were a powerful cause of the rise of the prices which all kinds of effects always suffered in New Spain and which held them out of the reach of the middle and lower classes. Mr. Lerdo de Tejada remarks that the foreign effects (and there were many of them) when arriving at Veracruz were already charged with 36 and a half per 100 of their value and in virtue of the imposts within the colony came to the hands of the consumer overcharged at 75 per 100. The same thing happened in Europe with the colonial fruits: cochineal, in imposts when leaving Oaxaca and Veracruz and at its arrival in, and departure from, Spain, paid *forty one pesos and thirty cents an arroba*.

Let us now see, albeit not with the exactness we should like, what was the amount of foreign commerce during the colonial epoch (1).

As it has been explained already, that commerce passed in New Spain through three different periods: in the first comprising the successive years from the conquest in 1521 to 1561, official regulation did not exact the vessels to make their voyages at determined epochs; in the second that goes from 1561 to 1778, the fleet system was ruling; and in the third closed in 1821, that system was abolished in virtue of the pragmatic of «free commerce.»

About the first of the mentioned epochs we have no exact statements and are unable to value in somewhat accurate numbers the amount of our exchanges. Not reckoning the expeditions of Cortés, Garay and Narvaez, it appears that in the fifteen years lapsed from 1521 to 1536 the vessels arrived at Veracruz did not exceed from 25 to 30; «and it may well be supposed that in the following twenty five years immediately anterior to the establishment of the fleets, the mercantile movement was not much bigger than in the first times, because the European peoplers still busied themselves in extending the Spanish domination wearing a half wild life that could not but reduce their needs.»

During all that time, the products of the mines will almost have been the sole articles of exportation. The works undertaken nearly at the beginning of the conquest in the mines of Taxco, Sultepec, Pachuca and Tlalpujahua, produced metals that may be reckoned (at the rate of \$ 1,500,000 a year, from 1521 up to 1548) at the sum of forty million and a half of pesos. In 1548 the working of the Zacatecas mines was begun, and in 1558 that of the Guanajuato mines. The production from 1548 to 1561 (at least at the rate of \$ 2,000,000 a year) was, therefore, of twenty four millions and estimating the booty of the conquest at another million at least, we get a total figure of five and sixty million pesos in the lapse of about forty years.

It is evident not all this sum was exported to Europe, something must have remained in the possession of the colonists; but, on the other hand, the exportation of indigenous products having already begun, it is admissible that the value of the same not only compensated that of the precious metals remained in

(1) The reader who feels an interest for numerical details we cannot insert here will do well to refer to the cited excellent work of Mr. Michael Lerdo de Tejada.



the colony but even exceeded it. Accepting this supposition it may be estimated that in this first period the exportation was likely to be somewhat less than two million pesos a year.

About the first one hundred and forty years of the fleet period (1561-1700) it is only known that fifteen thereof arrived at Veracruz in the years corresponding to the XVI century and sixty six in the XVII century; but we do not know the value of the goods they transported nor the tonnage of the vessels of each fleet.

We only know, the chief articles of importation were quicksilver, iron and steel used in the mining industry, the alimentary substances of the Peninsula, wines, cloths and paper; while those of exportation were mainly silver, gold, sugar, cacao, cochineal and indigo.

From the beginning of the XVIII century up to the year 1778 when the last fleet departed, there arrived seventeen convoys. The mercantile ships of the eleven fleets arrived until 1757, had an average of 3,700 tons each fleet, or what is equivalent, somewhat above 700 tons a year, whereas after the year 1757 the average attained 7,200 tons a fleet or about 2,300 tons a year. This notable increase in the bulk of the mercantile ships denotes a considerable increment in the maritime exchanges.

The precious metals that left the country from 1766 to 1778, exceeded \$ 155,000,000 and formed by themselves 95 per 100 of the total exportation. Cochineal was, after silver and gold, the main article sent to the mother-country and its value exceeded, on an average, two million pesos for each fleet.

Besides the enumerated convoys, between 1739 and 1750 there came several registered under a neutral flag to do the traffic which the war with England hindered the fleets to do. The product of this movement which continued on a lesser scale when the fleets were restored in 1750, is not included in the preceding figures.

The fleet system having been abolished, and later on opened to commerce with America not only certain privileged ports, but many others of the peninsula, the neutral ships being authorised to come from Spain to America and even at various epochs to bring wares from foreign ports and at the end of the Spanish domination several Mexican ports on both seas having been enabled to admit ships from abroad, commerce gained more life as it became less oppressed and the mother-country saw her income increased until the Independence war diminished the fountains of fiscal ingress.

To demonstrate the beneficial influence of the new legislation, it is enough to look at the tables Mr. Lerdo de Tejada published in his cited work; according to them \$ 2,470,022 was the value of the agricultural products transported in January 1778 by the last fleet commanded by Antony de Ulloa loading the goods accumulated since November 1773 when the anterior fleet left. Now well; according to the same authority, ten years afterwards, during the four successive ones from 1788 to 1791, Veracruz sent out agricultural products for \$ 11,394,664, id est, \$ 8,924,642 more than the last fleet carried. Consequently, exportation which ten years before was somewhat above \$ 617,000 a year, had risen already to about almost \$ 2,850,000.

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The count of Floridablanca



As for the precious metals, referring only to the epochs immediately anterior and posterior to the extinction of the fleets, we shall state here that in the thirteen years elapsed from 1766 to 1778, there were exported \$ 51,286,589 for the king's account and \$ 103,873,984 for private persons; while from 1788 to 1791 \$ 108,428,677 left for the royal treasury and \$ 115,630,338 for private persons. Thus, the king and his vassals clearly profited by the new system, for the mean yearly exportation of precious metals which in the former period was of \$ 11,932,046 rose in the latter to \$ 17,234,769.

Regarding the importations before «free commerce» we know, by the liquidations settled at the Jalapa fair, that the two last fleets brought, at the end of 1773 and the beginning of 1778, \$ 24,588,099 and \$ 26,924,499 respectively, thus resulting an increase of \$ 2,336,399.

In 1775, we have stated the Veracruz Consulate was established which since 1802 began to publish exact statistics of that port's commerce. Thus we know that from 1796 to 1820 there was an importation commerce of \$ 259,119,693 while the exportation amounted to \$ 278,534,260, resulting for the former an annual average of \$ 10,367,987 and for the latter of 11,141,370. If to these figures we aggregate the importations of quicksilver and paper for the tobacco administration (3,500,000), those which were effectuated through Acapulco (1,000,000) and those which were carried on by smuggle (above \$ 5,000,000) we arrive without any effort and with great likelihood to a total importation of 20,000,000 which is the same as that estimated by baron Humboldt although he states no particulars. In its turn, exportation, if we add to that made through Veracruz the parties corresponding to Acapulco, the payment of the merchandises entering by smuggle, and the sums withdrawn by the king, reached a figure near \$ 27,000,000.

Taking into account, besides, as Mr. Lerdo de Tejada does, that the value of the importations is not calculated by that which the goods had at their arrival, but at the fair of Jalapa, after paying the impost, one comes to the conclusion established by that author that the mother-country withdraw from New Spain, in the last twenty five years preceding Independence, from nine to ten million pesos a year that were distributed among the fisc and the importing merchants, forming an actual tribute «to Spanish government and mercantile monopoly.»

The derivation of the importations at Veracruz in the same period from 1796 to 1820, may be estimated as follows:

Spanish and American effects coming from the other colonies.	\$ 35,000,000 or 13.50 per 100
Spanish effects having come directly . . . . .	» 112,400,000 or 43.40 » »
Foreign effects . . . . .	» 111,800,000 or 43.10 » »
TOTAL. . . . .	\$ 259,200,000

Thus, then, the foreign importation commerce almost equalled the direct one from the mother-country, in spite of the great hindrances opposed to it and the short time the neutral ships were permitted to do the traffic with New Spain. The superiority of the foreign navies and the greater cheapness of the industrial products of other peoples were already throwing out of our market the Spanish fruits which, when our Independence became established, were definitively unable to compete with the English and French products.

The largest part of the importation commerce, especially in the iron and cloth lines, was in the hands of the English, thanks to their industrial superiority and the concession made them in the peace of Utrecht we have spoken of, of the exclusive right of introducing slaves into the colonies and to send there every year five hundred tons of European effects.

The English merchants established at Veracruz with the aim of watching the slave traffic (that was of little importance and served as a pretext for introducing other merchandise) were possessing themselves of Mexico's foreign commerce and later on they established important firms which under the influence of causes we shall explain at its proper place disappeared some years ago being substituted by French and German firms.

The Spanish articles imported at the beginning of the century, chiefly consisted in small stowage,

wines, iron, cloths, linen effects, paper and quicksilver. The most important colonial effects received through Veracruz, were cacao, which in part was reexported, and wax, of much consumption in the numerous religious festivities that were celebrated in New Spain.

The greatest bulk of the foreign effects was composed of victuals and grocery, with cinnamon as a very important article, iron and especially the cloths whose value was of \$ 45,800,000 in fifteen years against \$ 37,150,000 of Spanish tissues in the same period.

The importation of quicksilver by the Royal treasury is worthy of a special mention, for on the more or less equitable distribution of this metal monopolised by the Spanish government, the greater or lesser possibility depended of conveniently working the ores and the price fixed for the quicksilver greatly influenced the production because it determined on a large scale the profit of the miner. This explains the irregularity in the yearly production of the Mexican mines which, between 1796 and 1799, an epoch in which quicksilver was not wanting, yielded more than 2,700,000 mark of silver while in the years of scarcity, from 1800 to 1802, the production did not reach 2,100,000 mark. At the rate the price of quicksilver descended, the production of the precious metals and the revenue of the fisc increased, so that a sound policy ought to have endeavoured to benefit by the main or rather the unique industry of the country diminishing the utility in the sale of mercury, which would have been amply compensated by the development of mining and the product of the imposts charged thereon.



Guanajuato.—Public granary at Granaditas (modern view)

Such being the conditions of the foreign commerce of New Spain, sketched although very imperfectly in the preceding pages; taking into account, on the other hand, that here, besides many branches of agricultural exploitation (cultivation of the vine, the olive, etc.), it was practically prohibited to establish any industry that might cause an umbrage of competition to similar industries of the mother-country, it is easy to understand that inland commerce must almost remain reduced to articles of the first necessity. And it is also easy to become aware that commerce must be ruled by the same principles of restriction and monopoly which constituted the ground of the dominant ideas.

In the first place we must consider government kept the monopoly of numerous most important articles whose production or commerce or both at the same time, was prohibited to private persons. Monopolised was fishing, ice, gun powder, tobacco, cordwain, alum, tin, lead, playing cards, quicksilver, salt and who knows how many other things.

The evils of monopoly were aggravated by the contract or lease made with many of these branches and which opposing to the interest of a private person, producer or consumer, that of another private person, the contractor, determined acute and intolerable conflicts in which the most powerful used to triumph and which stimulated smuggle, bribery, and in one word, fraud in all its demoralising forms.

And what was not estanco or legal monopoly, was practical monopoly, realised pretty often by means of forestalling and always founded on the might of the capital concentrated in the hands of the clergy and

of a few merchants or landowners, in prejudice of the middle and lower classes, sucking all their blood, all their life which they with brutalising toil, without elements or instruments of any kind, without schools and almost without hopes of redemption, snatched amid their ignorance and vice from this soil, fabulously rich in the legend, hard and poor, almost to misery, in dire reality.

We have already seen, how, according to baron Humboldt and Luke Alaman, the strong firms or rich merchants forestalled the effects that came from abroad and how to hinder the prices to rise to an incredible height, the viceroys fixed them a measure or limit they could not overstep. The colonial authorities made use therein of an express faculty which a law of the Indies granted them and to similar measures it was necessary to have recourse even when the question was of the commerce of articles of the first necessity, such as corn, flour and the grains, establishing at Mexico and other towns public granaries or adequate buildings where the agriculturists were obliged to come to sell their products within a certain term, not being allowed to alter in the remainder of the day the prices at which the first sales had been made. The access to the public granary was prohibited to the bakers before the citizens had purveyed themselves with what they most needed and it was forbidden under heavy penalties to go out on the roads to meet the sellers in order to *ransom* their products before they might introduce them into the granaries, as also that the bakers might purchase wheat or flour, within or outside the granary, «unless it be every day the quantity they needed to make dough for the following day or at the utmost for two successive days (1).

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It is time to put a stop to this brief and imperfect survey of what New Spain's inland and foreign commerce has been. We omit, to be sure, many facts it would be interesting to state, but there is no room for them in the concise synthesis we must concrete ourselves to. Leaving them for those who may dispose of more space, let us say two words at least about the special legislation ruling the mercantile contracts.

That legislation was formed by the Royal letters patent or Ordinances creating every Consulate and which commonly while instituting the jurisdiction of the same gave certain rules to decide the quarrels or conflicts between the merchants. Of those Ordinances none were so achieved and carefully made up as those formed by order of the «University and contracting house of the very noble and very loyal Town of Bilbao» at the beginning of the XVIII century and which king Philip V approved and ordered to be put in force by Royal letters patent of December 2<sup>nd</sup> 1737.

The clearness and justice of the precepts contained in these Ordinances and probably their conformity with the good usages and practices of honest commerce could not but give them great authority and without a special order of the Royal power, their observance was generalised as a fact to such a degree that in the mother-country as well as in New Spain they were granted universal assent and considered as a compulsory law.

According to what the compilers of the known «Spanish Codes» state, they were in force in the largest part of the Spanish kingdom as long as 1830 in which year the first Commercial Code was published whose dispositions clearly reveal the influence of the old Ordinances. In Mexico the Consulate considered them in force as early as 1785. After the declaration of Independence they continued being observed until the first Code of Commerce was published in 1854 and still after this was derogated, with the complex of laws promulgated by the administration that brought it to light, they once more came to be in force during a great many years as we shall see hereafter.

(1) All the laws of title XIV, book 4, of the Recopilación de Indias.



## CHAPTER II

## FROM THE INDEPENDENCE TO THE RESTORATION OF THE REPUBLIC IN 1867

**I**F the history of our commerce during the epoch of the Spanish domination is a painful one, the reader's mind will not feel very much alleviated while perusing the following pages, because, being impartial we cannot present him more than a series of facts that constitute a *via dolorosa*.

Nor could it be otherwise. Independence being achieved, rather than by the development of the political organism constituted by the former colony, by the weakness and exhaustion of the mother-country, as it is eloquently proved by the fact that nearly all the Spanish possessions in America, although without communication between one another, got emancipated at the same time and many of them almost in one and the same day, it was logical and unavoidable that in the new Mexican nation the ideas should continue to prevail which had dominated until then, although the aim pursued was another and even radically opposed to that which had oriented government action up to then. It was no longer the Spanish interest that had to be heeded; the question was to care for the Mexican interest; but the methods and procedures must substantially remain the same because the directing ideas had not changed when Independence was made.

On the other hand, this had been initiated by the lower classes heated by the hatred engendered in them by a secular tyranny based on the most irritating injustice and it was achieved by repressing the ferment of the bad passions of the high clergy, of the landowners, of the rich and in general, of the upper classes against whose will the emancipation was carried into effect, they helping at the work only because they deemed the power of the king of Spain lost for ever and not because therewith any of their ideals or aspirations was realised.

For their part, the *insurgents* although they seemingly attained their purpose, could not fail to understand, it was not they who exercised the power which was seized by the same men whose influence had preponderated during the colonial regime. The result must be the formation, ever since the dawn of our independent life, of two deeply and irreconcilably antagonistic currents. The *creoles*, the Indians, all the disinherited, were anxious not to be any longer the oppressed; and lacking absolutely the moral qualities to be obtained only by a hard and slow social education they never received, they could not but confound liberty with licence and anarchy. The fortunate, the possessors of the force given by wealth, equally destitute of the moral qualities and the loftiness of views that justify the exercise of power by the upper classes when they are really enlightened, did not care but for their material interests of the moment, with that implacable egoism they had been accustomed to during centuries.

The clergy exercised a notorious influence over all the social classes. What did they do with it? They used it for their own profit acquiring the best property in the country and in the towns, not returning to the collectivity either in education or instruction or at least in example of morality and culture the forces they extracted from the social organism. On the contrary, the religious communities became focus-es of scandalous corruption and against them not even the prelates could interfere, because they were exempted from the episcopal jurisdiction.

The rural landowners also exercised an influence and an incontestable one by many conceptions, through their wealth and their alliance with the clergy. What did they do with it? They also converted the same into their own profit in the most absurd and egoistical manner, never caring for the welfare of the proletarian classes. On the contrary, on every *farm* where it was not possible to maintain the labourer in a slavery practically worse than the legal one, for this at least somewhat protects the slave; on those *farms* we say, they instituted the *compulsory shop* to rid the labourer of his miserable wages in



exchange for wares of the worst quality and at exorbitant prices, and what is still worse, in exchange for *brandy* and *pulque*; to brutalise him more, to favour the fondness for alcohol innate in the Indian and which the conquerors noticed at once and of which they availed themselves since the first times, in order to better exploit and, perhaps without being quite aware thereof, to doom to an apparently irremediable inferiority an unhappy and unfortunate race.

A very important influence was also that of the wealthy merchants who had possessed themselves of the movable riches whose management, although more difficult than it is commonly believed, besides procuring a brilliant and comfortable life to its possessors, gives them the social influence due to capitals either effective or easily disposable at short terms. What did they do with it? Instead of diffusing it wisely and prudently seeking in the multiplicity of the operations with small lucre a source of a sure and permanent gain, they continued expecting from monopoly and high prices a swift although transitory enrichment.

Together with all this, invading and penetrating all, infiltrating all the pores of that diseased organism there was the spirit of unbridled speculation which dominated and is still dominating the Mexican mining industry from which they did not and do not expect a moderate and sure profit as from any other industry, but the *bonanza*, that is to say, lottery, hazard, invariably followed like a body by its shade, by legend, exaggeration and lie which often become converted into deceit and fraud to demoralise and corrupt all.

The natural and irremediable product of the organic diseases of a society thus constituted was a weak, because ignorant and poor, government incapable, therefore, to realise the weal of the community. Whence should the statesmen come? Presidents, ministers, governors, functionaries of all categories, must come from the upper classes, or from the middle ones and in the villages even from the lower ones. All were deeply ignorant and demoralised; and when by exception there arrived at the spheres of power a superior man who found a source of sound inspiration rather in his patriotic feelings, than in an enlightenment he was generally lacking, he could not do anything. The needs of the moment with their ineludible pressure, the failure the great ideas and transcendental reforms are doomed to in an insufficiently prepared society, the obstacles, in sum, which the ambient medium opposes to any progress, howsoever well directed, howsoever wisely guided, stripped him of all prestige, when they did not prepare for his reward ostracism, banishment or even the gallows.

Two other factors must needs get their influence felt in the people that had just become independent. One was the lack of all industry, excepting a most backward agriculture and mining which, we have already stated, was considered a hazard. The other was the legend we Mexicans were immensely and fabulously rich; our mountains were not deemed terrible obstacles to traffic, but inexhaustible deposits of gold and silver; our enormous distances although destitute of roads and population, were proofs of our greatness; our virgin forests of the hot zone were not thought peopled with the difficulties inherent to an unexploited and uncultured nature which like a wild beast is not to be domesticated but devouring the first who draw near it; they were fragments of an earthly paradise where there was nothing to do but gather in abundance, without capital or toil, precious woods, tropical fruits of a high price and all sorts of treasures; the want of navigable rivers and even of rains were adverse elements of no significance; our ignorance, our want of capitals and the concentration of the existing ones in few hands; the abjectness of the Indian, the scanty development, not to say the absolute absence, of social instincts, impalpable links whose existence is indispensable to constitute a solid political organism, nothing of all this was taken into account. The only thing which had hindered our happiness, was the Spaniard and this was now vanquished; there only remained for us to enjoy, without toil, without capital, without communication roads, without science, without morality, without respect for the right of others, the immense riches with which prodigal and generous nature had endowed us.

In this medium, within the lineaments of this gloomy ground fatidically illumined by a funest lie, we shall go to see how the whole of our inland and foreign commerce developed during the epoch to

which we have consecrated the present chapter. May the reader pardon us if in appearance we have deviated from our theme; but a respectable authority has said: «Commercial history would lack meaning without political history.»

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We have insinuated above that, when Independence was established, the leading ideas had not shifted and that the government methods and procedure, were substantially the same as those which had been employed during the colonial regime. We shall see how exact this appreciation is in mercantile matters.



View of the town and port of Veracruz before the great works realised in the same

Monopoly, prohibition, exclusive sale were the bases whereon the Spanish government, not being well aware of its own interest nor of those of its subjects, settled its commerce with the colony.

What did this do when becoming independent? Did it grant liberty, did it open the wide and fecund currents of competition, did it show the due respect for individual right? No, to be sure; although commerce was declared free and the ports were opened to the ships of all nations, from the first moment, as we soon shall see, the regime of the prohibitions was established, declaring forbidden the importation of what we produced or presumed we might produce. Coined silver could not be exported «but at the rate of commerce» and sustaining an equivalent value must return in merchandise of licit commerce, gold and silver in bullion were forbidden to export during several epochs; coins and the precious metals, when their exportation was licit, as also cochineal in its different varieties, and vanilla were charged with a certain per cent of their value at their extraction; the silver ores were not allowed to leave the country. As for the estancos which the Cortes of Cadix had not abolished, only those were suppressed which pro-

duced little rent for the fisc; the other and, of course, the most important ones, were conserved and some like that of the playing cards, which had disappeared since 1811, was restored in 1842.

What, then, had been changed in the question of principles? Nothing: all remained on foot and the only real difference consisted in that the Spanish government meaning to favour its own subjects oppressed in the first term the Mexicans and afterwards the Mexican government, meaning to protect its own people tyrannised in the first term the Spanish subjects.

Regarding the foreigners who were forbidden in certain cases under the penalty of death to enter the colonies and to reside therein not being naturalised or tolerated with express license of the king the numerous prohibitions that weighed on them were not abolished, but only declared «suspended for the moment;» and although the national territory was opened them that they might come to colonise it they were hampered by numerous restrictions and still at the end of 1843 they were prohibited to do commerce in detail.

This ill-will towards foreigners and the hatred against the Spaniards whose expulsion in mass was decreed and carried out probably in those who constituted the most useful elements of capital and honest and quiet work, was one more reflex of the ideas that had dominated up to then.

And what did they obtain with this system they called *protector of the Mexicans*? Merely and simply to oppress them and tyrannise them, for theirs were the confiscated liberties, theirs the conculcated individual rights. So as formerly the king thought he protected his subjects oppressing in appearance only the colony, and in reality and in the first term, the mother-country, thus among ourselves people thought all the laws and providences dictated against the Spaniards and foreigners affected them alone, when in truth the first, nay the sole victim, was the unhappy Mexican who continued suffering under the most stupendous despotism; those who exercised power imagining that with restriction decrees they were going to make people happy on the following day, and those rising angry in war against their rulers in order to make new chieftains occupy their place and dictate still more restrictive and oppressive laws. Many years were to pass by before people understood that our evils had their roots not outside but within our own organism and that only freedom in all its forms, but above all in its economical form, would be able to rid us from our miserable condition. The fact was things could not change but new men, with new ideas, must come to form new social classes and with a patriotism and abnegation only comparable to those animating the primitive founders of our nationality and sacrifice themselves as they did in order to break the old forms and render definitive and perdurable the work initiated in 1810 and apparently consummated in 1821.

But let us now enter into the detailed relation of our mishaps in mercantile matters or at least of the main part of them, because to enumerate all, would be an almost impossible task.

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The tariff published by the provisional Board of government on December 15<sup>th</sup> 1821 was our first law on foreign commerce; its principles, somewhat alleviated at times and formidably aggravated at other times, being those which on the bottom have informed all our laws about the matter, we are going to expose them somewhat in detail.

They began to establish in this tariff that commerce with all nations was free and that their ships would be admitted in all qualified ports being declared such those which the Spanish Cortes had ordered to be opened by decree of November 9<sup>th</sup> 1820 and which were besides Veracruz, Acapulco, Sisal, Campeachy and San Blas, those of Tlacotalpam, Matagorda, Soto la Marina, Pueblo Viejo and Tampico, «the Regency being wished to immediately establish customshouses where there were none.»

As for the importations, they declared free of all duties quicksilver, instruments for science and surgery, machines useful for agriculture, mining and arts, printed, unbound, books *with prohibition of those contrary to religion and the good customs*, the stamps of the principles of painting, sculpture and architecture and the models and designs serving for teaching, with the same prohibition of those contrary to



religion and good customs, written and printed music, living plants and seeds of exotic plants, raw linen and living animals.

In exchange they prohibited the introduction of tobacco and raw cotton, wrought wax, noodle paste, silk or metal galloons and lace or of both materials, cotton thread no. 60 or in a pound of which there were not less than sixty skeins and white and coloured cotton ribbons. As for comestibles the observance of the old prohibition was ordered to continue as long as nothing else was resolved.

For the payment of duties the gauging system was adopted, that is to say, they took as a base the value of the merchandise fixed in the tariff; and they imposed as a rule duty to be paid within the 90 days following the importation, that of 25 per 100 of the gauging.

Undeclared merchandise or the excess found of those which ought to pay duties, incurred into the penalty of confiscation to be applied judicially, the products being shared by the officers who discovered the fraud and the judge who sentenced the contravention.

The prohibition system was not long in becoming aggravated and before a month had elapsed, on January 14<sup>th</sup> 1822, the tariff was considered too liberal. In virtue of remarks made by the Regency, the same Board that had sanctioned it, reformed it forbidding «all introduction of flour into the ports.» Afterwards, in May 1824, to the prohibitions in force they aggregated that of numerous effects among which we may mention as noteworthy rice, sugar, cane juice or honeys, coffee, green fruits, *wheat, maize, rye, barley, beans, garavances, lentils and other pulse*; ham, pork and the waste of hogs; *ready made clothes in all forms either of cotton, linen or silk*; many articles of leather, among them *all kinds of shoes*; many articles of clay, such as bricks, wedgwood and tiles; the metals such as copper and lead in bullion or plates; many artifacts such as epaulets and all kinds of galloons and *all species of woods*.

This system was not varied in the tariff of November 16<sup>th</sup> 1827 in which, in exchange of having been aggregated to the free articles the exotic animals, living or dissected, transport cars of new invention, wooden houses and others so unimportant as crystal prisms and court-plaster for wounds, the list of forbidden articles rose to fifty four sections, some so generic as «dressed cow and sheep skins of all classes and colours; cords and curtains of all kinds, cordwain of all classes and colours; books especially and legally prohibited by a competent authority, woollen cloth of second and third class; *ready made outer and under garments of any shape, description and cut, raw and worked tobacco, wheat and any kind of seeds*, all classes of shoes and other equally important effects.»

Three novelties were introduced into this tariff, besides permitting that half the duties were paid at ninety days and the other half at one hundred and eighty, and they were: first to authorise the States to name interventors to watch the exact application and payment of the duties and the second to establish the specific system or that the merchandise should pay by their number, weight and measure the quota fixed in a special tariff incorporated in the law and no longer by their value, the system of gauging being kept up only for no specified effects. The gauging ought to be done by the administrator of the Customs, the interventor or interventors of the States and an expert named by the interested, the duties consisting in the 40 per 100 of the price so determined. The third novelty consisted in considerably reducing the duties of the effects introduced in Yucatan, Chiapas and the Californias or coming in national ships; it must be stated that already some time before the introduction of flour and maize was permitted in Yucatan and Campeachy whenever the local authorities deemed the crops insufficient or nul and that this franchise subsisted in the tariff we are studying. Thus with one stroke of the pen the base of equality in tribulation became destroyed, perturbing and irritating differences were established and all the consequent evils were enthroned.

The list of the prohibitions was still to be increased, in May 20<sup>th</sup> 1828, by that of twisted silk; and though it may seem impossible that such a system could be carried to further extremity, notwithstanding, here are the collections of our national laws to witness that on May 22<sup>nd</sup> 1829, under the government of the well deserved general Vincent Guerrero, the minister of Finance being Mr. Lawrence Zavala, the most draconian decree that may be imagined in this matter was issued and which we are going to insert re-



questing our readers to take the patience to peruse it in its integrity because only thus they will be able to form an exact judgment of the length where an erroneous criterion may lead.

«*Under the pain of confiscation*, that decree says in a unique article, the introduction of the following articles is prohibited:

»Iron or metal pricks or spurs.—Brandy of foreign manufacture.—Raw cotton of any foreign derivation.—Sewing cushions.—Ordinary rings.—Anise in grains.—Indigoes.—Thick iron and copper wire.—*Hoes, sickles, plough-shares and all kinds of tilling instruments used in the country.*—Baize and ordinary coating.—Brushes for painting.—Boxes of rush-candles.—Iron padlocks, plates and locks.—Teasels in patch and mould.—*Ginghams and all ordinary striped cotton cloth.*—*Not wool-like cassimere.*—Bristles for shoemakers.—Ordinary cotton and linen ribbon.—Iron nails of all kinds and sizes except at the ports where wooden houses are building.—Woollen and cotton quilts and coverlets.—Worked copper in ordinary pieces.—Cotton cloth of inferior quality to fine English chintz.—Cords for music instruments.—Sweets.—Wooden, horn and tortoise-shell combs of all descriptions.—Worked spermaceti.—Tin in rough.—Tin and paper lanterns.—Wool cotton fringes.—Bridles.—Frieze and serge.—Iron and ordinary brass hinges.—Guinea pepper.—Iron shoes for beasts.—*Coarse and fine worsted.*—*Play things of any material for children.*—Books of white paper.—*All kinds of wood except masts for ships and wooden houses.*—Lard and butter.—Worsted stockings.—All sorts of playing cards.—Gold leaf, fine and false.—Tinsel.—Wafers.—Half-cloth.—Coloured paper.—Coloured pomades.—All kinds of cheese.—Wool serges.—Cloaks or sacks of coarse hair.—Saddles and *every kind of belting.*—*Hats of all kinds and shapes, caps and bonnets.*—Cotton shawls.—*Brownish and white cotton tissues or cloths whatever their dimensions and denominations may be*, of inferior quality to that of fine coco.—Buckram and cloth.»

If our readers have perused the preceding list which was added to the already very long lists actually in force, and before whose totality one may ask what was permitted to import into the Republic and why, if only for simplicity's sake, they did not prefer to make a list of what it was licit to introduce, since it would have resulted shorter than the list of forbidden articles; if, besides, we take into account that, as an effect of Spain's resistance to acknowledge our independence, all commerce with the former mother-country and the introduction of all its produce were equally forbidden, our readers, we say, may understand how deep are the roots of many sides of our backwardness. Because it must be considered that, as it has been stated in the chapters of this book consecrated to our industry, there then existed no kind of manufacture but those they tried artificially to create to spin and weave cotton and wool. They attempted to *protect* a people that had no machines, that hardly was acquainted with the most elementary and rough tools of labour, that, reduced to exercise a primitive manual industry, was literally naked, and without hyperbole was starving to death; and in order to obtain such an aim, in order to render this people happy, it was prohibited, under penalty of confiscation, to bring from abroad the articles of the first and most elementary necessity which it did not produce itself.

And was this system an unpopular one? By no means. Let us only see with what words the law we have just inserted is commented upon by so respectable an authority as the eminent statesman Michael Lerdo de Tejada:

«This law which may well be said to be one of the severest of all that have been dictated in matters of prohibition, was, notwithstanding, issued by a government displaying the most exaggerated principles of liberty and social progress; this lets us presume that its authors sacrificing the ideas they proclaimed, *had no other aim than that of acquiring popularity*, flattering the opinions of those who think it is thus, national arts and industry ought to be protected.»

The reader, sure to gain by the shift, will allow us to continue letting speak the same Mr. Lerdo de Tejada, until we come to the tariff of June 1<sup>st</sup> 1853, in which year he wrote his most estimate monograph on *El comercio exterior de México*. The respectable historiographer tells:

«Fortunately that law was not long in force, for by that of April 6<sup>th</sup> 1830 the importation of many of the forbidden effects was permitted, chiefly the cotton ones, with the aim, that the product of the

duties might be employed to maintain the integrity of the territory in the case of a new Spanish invasion, forming thereto a reserve fund and to forward the national industry in the branch of cotton and wool tissues.

»This last law and that of October 16<sup>th</sup> of the same year which destined the fifth part of the duties on the cotton effects to protect national industry were the origin of the creation of a fund titled *Banco de Avío*, with whose capitals many of the manufactures were established which up to this day exist in the Republic for cotton spinning and weaving and which united with those formed afterwards with private capitals, became soon converted, as might have been expected, into a continuous germ of troubles and embarrassments for government through the struggle that necessarily began at once between the interests of the industrials and of the consuming public and the difficulty to find a means satisfactorily to conciliate their opposite pretensions.

»The law of April 6<sup>th</sup> 1830 which derogated the prohibitions established in that of May 22<sup>nd</sup> of the anterior year, although it was not be in force longer than till January 1<sup>st</sup> 1831 in the ports of the North and till the end of June of the same year in those of the South, continued valid for some years, with great benefit for commerce and the national treasury through the heavy duties those effects paid at their importation and entrance into the Republic; but the new manufacturers, already interested for the prohibitions, had been acquiring more and more influence on the direction of public affairs and they were not long in exercising that influence to assure more absolutely their interests for the future, promoting the formation of the new general tariff that was issued on March 11<sup>th</sup> 1837.

»This tariff altering the anterior dispositions, definitively fixed the prohibitions on fruits and the following manufactures: brandy of cane and any other not being of grapes excepting Geneva; starch, aniseed, cumin, sugar of all kinds, rice, brass and copper wire of any diameter; flour, except in Yucatan; boots and half boots for men and women, buttons of any metal having the front or reverse engraved or stamped with the national or the Spanish arms; coffee, cast iron nails of any size; worked copper in ordinary pieces for domestic uses, worked tortoise shell and horn, epaulets of all kinds and metals for military insignia, cordwain of all classes and colours, tin in fibres, stamps, miniatures, pictures and obscene figures of all kinds, and, in general, all obscene artifacts and contrary to religion and good customs; galloons of metals and of all classes and materials, all sorts of chamois, including common buckskin; coarse and fine frieze, cotton thread from number 20 downwards and from number 21 upwards, this prohibition beginning only from the year of the promulgation of this decree; soap of all classes, toys for children of all kinds and materials; common earthen ware, glazed or unglazed, painted or unpainted; books, pamphlets or manuscripts forbidden by a competent authority; hog lard, cane honey, wood of all classes, excepting that for ship-masts, playing cards, gold leaf, fine and false, tinsel; woollen stuffs not being of first quality, parchments, lead in the rough state, in mass or in ammunition; cotton or silk mufflers, outer and inner ready made clothes for men and women, of any shape, material and description, excepting hand kerchiefs, gloves, hats and stockings; common salt, rough or worked suet, forest-cloaks, blankets and quilts of wool or cotton, thick or thin sack-cloths; raw tobacco and paper cigars; ordinary cotton tissues, a year after the publication of this decree, wheat and all classes of corn, pulse and soups, with the exception of maize destined to Yucatan and Campeachy; salted, preserved or seasoned pork, and shoes.

»The tariff of April 30<sup>th</sup> 1842 made but few variations in the anterior one of 1837, limiting itself to derogate the prohibition of ordinary wool cloth, tinsel, rug scarfs, covered buttons, knitted cotton, worsted or silk shirts and drawers, shawls, night caps, wrappers, rum, hats, hams and all kinds of sausage and pork-butcherly, and in exchange aggregating the prohibition of worked wax, gun-powder and tobacco worked into cigars; and as for the ordinary cotton tissues, the prohibition was limited to those not exceeding from 25 to 30 threads in the warp and woof of one fourth of a square inch.

»The law of August 14<sup>th</sup> 1843 prohibited the importation of all kinds of coaches, gigs and carriages, saddles, hats, furniture, forte-pianos, dolls and toys, and, besides, a multitude of instruments and tools

of gold and silver, copper, iron and steel for domestic use and for *arts and trades*, whose list we omit to insert here, being too extensive, for the number of the various objects mentioned therein ascends to not less than 245.

»This last disposition erroneously considered a means of protection on behalf of national arts and industry, was soon afterwards ratified by the tariff of September 26<sup>th</sup> of the same year; for with the exception of awls, hooks, hoops and twigs for barrels, bits, borers, burins, knives for the arts, cords for music instruments, tongs, lathes and hooks for dentists, all the remaining objects prohibited by the law of the 14<sup>th</sup> of the anterior month continued forbidden.

»As for the other prohibitions, few were the alterations of the tariff of 1843 regarding that of 1842; however, it aggregated to the pretty long list of prohibited effects brimstone, artificial flowers, cakes, books of white paper, ruled or unruled, and the invoices, warrants, bills of lading, petitions of despatch at the custom-houses, either printed or engraved or lithographed, lead ammunitions and other metals, wool cloth not being first class, braces, saltpeter and all kinds of dough for porridge.

»Later on, the law of April 7<sup>th</sup> 1845 likewise prohibited the importation of mixed linen and cotton thread for sewing and six months afterwards, the tariff of October 4<sup>th</sup> of the same year derogated the prohibitions of artificial flowers, biscuits, some hides not utilised in the country, books in white, ammunition of all metals, porridge ingredients, parchments for drawing, fine hunting powder, braces, and in general all the instruments and tools of different metals prohibited by the law of August 14<sup>th</sup> 1843, restoring the prohibition regarding side and fire arms, ammunition or ordinary ones, according to the supreme order of September 22<sup>nd</sup> 1840, bridles, bits and spurs after the national style, saddles of all classes with their trimmings, and plough-shares after the national style; this latter disposition was afterwards partly derogated by the reform this tariff suffered in the law of November 24<sup>th</sup> 1849 which permitted the importation of any kind of arms.

»Such was the course followed by the Republic's prohibitory system up to the middle or end of 1851 and of all the providences that have been related no other exceptions can be cited but the permissions which several times have been granted to import raw cotton, flour and timber; that which was given by the decree of March 26<sup>th</sup> 1849, to intern some prohibited goods, then detained in the ports pretexting they had been imported during the war with the United States and that which was conceded at last on April 4<sup>th</sup> of the same year to introduce all kinds of victuals from abroad by the frontier of Tamaulipas.

»However, the discontent that had become manifest in different manners about that time against several of the prohibitions and the tenacious resistance the Chambers had opposed the reform of the tariff about this matter, announced a tempest which only waited for an opportunity to break out and which necessarily was to occasion grave prejudices, not only to the interested in sustaining those prohibitions but also to national treasury and the whole commerce of good faith, as it commonly happens, when the authorities do not heed the exigencies of opinion and this at last contrives to get satisfied amid those troubles which always open more or less widely the door for disorder in all the branches of public administration in making its appearance; for by the motive of the infamous aggression undertaken on Matamoros and other towns of the frontier by a certain Carbajal helped by some adventurers of the North, General Francis Ávalos, who was the commander there, in order to content the merchants of that port and thus to be sure to be supported by the population, issued, on September 30<sup>th</sup> 1851, by agreement with the town-council, a new tariff which, besides altering in all its parts the quota and requisites provided in that of 1845, permitted the importation of cotton yarn, thread and tissues, all kinds of ready made clothes, sackcloth, frieze, ordinary woollen cloth, cloaks and blankets, starch, aniseed, cumin, indigo, brass wire, raw cotton, brimstone, boots and shoes, metal buttons, cast nails, copper in bullion, tortoise shell and horn, epaulets and cottons, every class of tanned hides, soap, toys, ordinary earthen ware, drafts and other printed documents, cane honey, saddles, gold-leaf, ordinary gun-powder, lead, parchment, plough-shares and raw or worked suet.

»This first blow struck at the general tariff in force, and which although not officially recognised by



government, this being impossible, was at least tolerated, no providence being taken against its authors, was followed soon afterwards in Veracruz by the importation of foreign flour on a decision of the Municipality that was equally tolerated by government; and, at last, when the ports of Tampico and Veracruz adhered, in December 1852 to the plan proclaimed in Jalisco against the government, also successively issued their particular tariffs by which the importation was admitted of sugar, coffee, flour, butter and all the flax and cotton yarns, whose example was followed by the remaining rebellious ports, some publishing the reform and others permitting as a matter of fact the introduction of those prohibited effects.

»This labyrinth of tariffs became still more complicate in January of the present year (1853) by the decree issued by the transitory government of Mr. John B. Ceballos on the 24<sup>th</sup> of the said month, derogating the prohibition of the ordinary cotton tissues, coloured spinnings, raw cotton, cotton thread, sugar, flour and butter; for establishing on these effects different quota than those fixed at the ports it was no longer possible for commerce to know which of so many and so contrary dispositions must be observed, till at last, order having been restored in the whole Republic, a new general tariff of maritime and frontier customs was issued on June 1<sup>st</sup>, which although it did not satisfy all the exigencies of the interests which are, and always will be, struggling when the question is about such a law, produced for the moment, for the fisc, industry and commerce the disappearance of the amazing confusion that existed before. For the rest the reform this tariff made on the prohibitions contained in that of 1845 was limited to derogating that of raw cotton, threads and ordinary tissues of that matter, toilet soap, toys of more than four reals worth, timber, cotton and coloured yarns, and also the white and the brown ones, these last not being allowed to be imported until sixteen months after the publishing of this tariff.»

After the tariff of 1853, the last government of *funest* General Antony Lopez de Santa Anna issued numerous dispositions affecting the regime of the sea and land customs, but, of course, never to reform them in a liberal sense; we, therefore, omit their detailed enumeration in order to come to the General Ordinance of maritime and frontier customs, issued on January 31<sup>st</sup> 1856, a work of Emmanuel Payno, minister of Finance in the government offspring of the Ayutla revolution.

Although that government was formed by men who proclaimed the liberal principles which some years later on, and not without producing a profound crisis, were to put this country on the road to its definitive constitution, the said Ordinance did not put a stop to the prohibitions; nevertheless it reduced them much, for only eighteen was the number of the merchandises or their categories which remained forbidden and in exchange, not only was the list of the duty free articles considerably increased, but important exceptions to the prohibitive system were sanctioned. Thus for instance, the importation of all kinds of victuals was permitted, albeit paying duties and limited to the sole consumption of the frontier towns, through the ports of Matamoros, Acapulco and La Paz, Lower California and the custom-houses at Camargo, Mier, Piedras Negras, Monterrey, Laredo and Paso del Norte; in the State of Guerrero and all Lower California, maize was declared duty free; Yucatan and Chiapas kept the privilege to import, without paying more duties than the municipal one, the maize and wheat they might need when those corns were scanty; and Tampico remained authorised to introduce up to one thousand casks of flour every year. The principle of inequality in the imposts was continued; but at least the exceptions were gaining ground and became generalised, this denoting tendencies towards a less restrictive regime and above all, a better knowledge of the actual necessities of the country.

Before going ahead, we must examine some other most important aspects our laws and the conditions of our nation offer for the study of the mercantile evolution in the epoch we are now considering.

We shall not be obliged to enter into the particulars we have stated regarding the prohibitions, because those details will have been sufficient, we hope, to carry into the reader's mind the conviction, it was necessary to found on concrete facts, that our appreciations of a general character cannot be taxed of exaggeration as of being derived from doctrinary prejudices; but we cannot omit examining clo-



sely most of the adverse factors which so much and for so long a time have hampered our commercial progress.

And passing at once to the important branch of our exportations we ought not to wonder at stumbling at such errors we have stated regarding importations, because the origin of them all was one and the same. It is certain that with the exception of dyer's wood which nearly always has been charged, cochineal in its different forms and vanilla which during a short period paid duties when leaving the country, all other national goods were declared of free exportation. But the same did not happen with the precious metals; and these having always constituted the main branch of the national production and we almost have not had anything else to pay our importations with, it may be said without any impropriety that the laws regarding the precious metals have been those which ruled our whole exportation.

Now, the provisional tariff of 1821 taxed the export of coined, wrought or bullion gold respectively with two, one and three per cent of its value; the export of coined silver which could be remitted abroad, «precisely for commerce's sake,» with  $3\frac{1}{2}$  per 100, of wrought silver with 3 and of silver in bullion with  $5\frac{1}{2}$  per 100.

Just as for the importations this tariff was considered too liberal regarding the export of precious metals and in January 1822 the same governing Board which had issued that tariff prohibited terminatively the exportation of silver and gold bullion.

That of «wrought silver and gold for the use of the pretenders,» continued permitted, «because their extension, without more duties than the maritime ones, forwards the country's industry;» but regarding money, on February 16<sup>th</sup> of the same year, and «in order not to hamper the transaction of commerce, with heavy prejudice for the empire itself and the private persons,» it was provided, by a formal decree that «for commerce's sake only and with a permit of the Regency,» dockets could be delivered to conduct money to the ports; that anybody who solicited them, should previously bind himself to return in effects the value of the money he extracted; and that, in order to make that bond effective, he who asked the dockets, should bail them to the satisfaction of the customs officers. The Regency was, moreover, authorised to deny the dockets when there was a motive to suspect a fraud in the prohibitory disposition to withdraw capitals from the empire and the penalty of confiscation was established of any capital «when a fraud was denounced or found in the quantity or purpose of the export.»

The results of those measures must have been very bad, for they were soon modified in a less restrictive sense and on March 22<sup>nd</sup> of the same year 1822, the Mexican Constituent Congress declared that «duly protecting the sacred rights of liberty and property and wishing commerce to prosper and confidence to revive, nobody ought to be denied a docket to export money whatever the quantity might be.» Thus in this matter they initiated the system of Penelope unweaving to-day what hardly had been woven yesterday in order to weave it once more to-morrow, destroying in this manner all firmness, base of trust which as early as the 22<sup>nd</sup> of March 1822, that is to say, before six months after the triumphal entrance of the trigarant army at Mexico, had been so entirely lost that Congress declared it was necessary to make it revive.

By the law of May 24<sup>th</sup> 1824 it was permitted to export coined and wrought gold paying 2 per 100, and wrought or coined silver paying  $3\frac{1}{2}$  per 100; but on pain of confiscation the export continued prohibited of gold and silver in bullion, ore or dust, unless it be in small quantities and as a curiosity «for the cabinets of the scientists.»

On July 19<sup>th</sup> 1828 they raised the prohibition to export gold and silver bullion; but their circulation and conduct to the ports was subjected to numerous formalities and shackles and the exportation duty was raised to 7 per 100, without prejudice to the imposts of mining and coinage, separation and other, fixed by the decree of November 22<sup>nd</sup> 1821.

This liberty of exportation did not last long becoming once more abolished on March 9<sup>th</sup> 1832 and granted anew on October 17<sup>th</sup> 1833, albeit only for six months and limited to the States of Sonora, Sinaloa, Chihuahua and Oaxaca, they being very distant from the Mints. On September 9<sup>th</sup> 1835 they or-

dered to suspend the granting of permits for the exportation of silver bullions, this proving that such permits were practically conceded; and afterwards, on the following January, Government was authorised to grant them up to the quantity of one thousand mark gold and one thousand lingots silver, while in the tariff of March 11<sup>th</sup> 1837 and on pain of confiscation they renewed the prohibition to export gold and silver in bullion, ore and dust.

To what use would it be to continue wearying the reader with the detailed enumeration of the laws alternately forbidding and authorising the export of the uncoined precious metals? May it be enough to say the general rule was prohibition, under the influence of the false theory that wealth consists in money, a theory whose consequences were aggravated by the current ideas about the conveniency of favouring national industry, causing the minerals to be precisely worked in the country not taking into account that, our exportation of agricultural and other products being almost nul it was inevitable for us to pay in precious metals the adverse balance of our importations. Nor did they appreciate the advantage that would have resulted from sending our ores, rich and able to support even high freights, to be worked abroad, although it was evident, manifold circumstances hindering them to be worked in the country, the prohibition to export ores was equivalent to that of working the mines which produced them; and only in 1855 it was permitted for the first time to export ores from the Territory of Lower California, and only for a limited term, through one sole port and paying a duty of 10 per 100 on the value, fixed by means of assaying.



Zacatecas.—Former custom-house

There existed another motive to maintain on foot a system so contrary to the economical interests of the country: the constant penury of the public treasury rendering impossible for fiscal reasons the abolition of the high duties the precious metals paid at their exportation and which in several epochs came to exceed 8 per 100 of their value. This same penury imposed on our governments the system of letting the mints on lease to private persons in exchange for more or less considerable, but always usurious, advances. Those advances were made as reimbursable with the produce of the imposts on coinage, separation, assaying and others collected at the Mints; and, quite naturally, the lenders who took charge of the management of the Mints and of the collection of those taxes, were always anxious to stipulate that the taxes should not be modified nor the exportation should be permitted of the precious metals in bullions, ore or dust. And there always being an opportunity favourable to renew those loans when they were near to be reimbursed, because the fisc was quite starving, this system handicapping the legislator was indefinitely prolonging. Further on we shall see that the exportation taxes on the precious metals, even when coined, the prohibition to export the ores and the letting on lease of the Mints have been evils which only ceased in our days, we almost might say but yesterday.

An unavoidable consequence of the prohibitions forming the base of the regime of our foreign commerce was an almost incredible heap of difficulties and shackles on our inland traffic. The imported wares

and the sums destined to exportation were not allowed to circulate in the Republic but under the shelter of documents denominated *gulas* (dockets) and which marked the exact road wherefrom the carriers and freighters ought not to deviate and whereon they could not stop longer than a certain time because at the end of a fixed term it was compulsory to present at the starting point of the wares the *torna-gula* stating that the load had arrived at the spot of its destiny. All these restrictive dispositions had as a sanction the penalty of confiscation or loss of the goods and in the profit resulting therefrom, we have stated, all the functionaries, judges and agents interfering in the apprehension, were interested in the application of the pain, losing thereby necessarily all impartiality and from serene agents of the law becoming converted into enemies the more cruel and implacable of the citizens the more they were innocent, for the smugglers and defrauders of the fisc always found a way to come to an understanding with ill retributed and insure of their places officers and functionaries.

The want of roads and the deplorable carelessness about the few that existed formed another considerable obstacle increased by the frequency with which the governments either practically and without any authorisation or expressly authorised by laws and decrees seized the vehicles and beasts of burden of the private persons to fill up the deficiencies of a most imperfect military organisation and to convert, almost always without any compensation, into elements of war the means of transport of which commerce availed itself at the cost of great sacrifices, for their pacific purposes.

Public insecurity, on the other hand, not only existed on the fields and on the roads, it even reached the towns and important ones, and the merchants obliged to keep an eye on their fortune must live armed to defend it by their own hands, for violence and even sackage were committed as well by the government's soldiers as by the bands of the revolutionaries and the *pronounced*.

To these difficulties we must add that derived from a system of tribulation as tyrannical and absurd as all the rest. Although the first tariff of 1821 established the foreign effects should only pay a duty of 25 per 100 *ad valorem* at the port or spot through which they were imported, this duty was very soon raised to 40 per 100 and what was worse, they established, under the name of international duties and others it would be impossible to enumerate, additional imposts complicating or rather making impossible any calculation both by the frequency with which the quota were changed and because they were not even uniform at all the ports and frontiers, some of them being destined to satisfy merely local needs and therefore were not the same everywhere. Mr. Lerdo de Tejada, in his so often cited work on the foreign commerce, enumerates up to eight of these additional imposts being in force in 1853; and they got so deeply rooted in the customs organisation that the Ordinance or tariff of 1856, instead of melting all of them in one sole, not only let them subsist but rendered them permanent and classified them into five categories, with the names of municipal duty, material improvements, international, counter-register and sinking fund of public debt, liquidated and consolidated.

The first consisted in one real for each pack of eight arrobas weight (80 kg.) and was destined for the port's municipal treasury; the second rose to one fifth or 20 per 100 of the importation duties and ought to serve precisely for the «payment of the interest of the capitals to be raised within or outside the Republic for the construction of rail-ways;» the third consisted in another 10 per 100 of the importation duties to be paid when the goods left the ports and frontier custom-houses for the inland towns; the fourth amounted to 20 per 100 more of the same duties to be paid at the arrival of the effects in the capitals or towns of the States or Departments; and the fifth consisted in 25 per 100 more of the importation duties and must be satisfied precisely at the Nation's General Treasury in bonds of the liquidated and consolidated public debt. What mercantile calculation was possible with such a variety in the tariff quota?

But confusion and disorder did not end here. An equal anarchy was reigning regarding the port duties; there were that of tons, that of watering, that of pier, that of pilotage, that of harbour-master, of health-office and others, varying from port to port; and in order that nothing might be wanting in this chaos, they aggregated the excise duties about which Mr. Lerdo de Tejada says:



«As for the *excise duty*, the first of this class, established in Mexico on foreign effects, after the institution of Independency, was that imposed with the name of *alcabala* by the decree of the Regency, dated February 20<sup>th</sup> 1822, which ordered that at the inland custom-houses brandies and wines should pay 20 per 100, instead of 8 per 100 they formerly paid and this quota of 20 per 100 was raised to 40 on brandy and 35 on liquors by a new decree of August 9<sup>th</sup> of the same year.

»This heavy contribution was suppressed by the law of classification of revenue of the Federation and the States, of August 4<sup>th</sup> 1824, and afterwards by that of December 24<sup>th</sup> of the same year the excise duty became clearly established, the particular Governments of the States being authorised to charge 3 per 100 on the foreign effects to be consumed in their respective territories.

»This impost being established since then, posteriorly suffered very remarkable variations; by the law of August 22<sup>nd</sup> 1829 the States were authorised to aggregate 2 per 100 on the 3 they already collected; the law of September 15<sup>th</sup> of the same year, derogated by that of November 6<sup>th</sup>, increased 5 per 100 on dry goods and 10 on liquors on behalf of the Federal treasury; the law of May 24<sup>th</sup> 1832 allowed the States to charge 1 per 100 more on all foreign goods for municipal expenses and lastly that of November 26<sup>th</sup> 1839 increased it up to 15 per 100 throughout the Republic; but this disposition having given rise to very strong remonstrances of the national and foreign merchants, it was derogated by the decree of October 16<sup>th</sup> 1841 which reduced it to 5 per 100.

»This impost limited to that quota continued to be exacted throughout the Republic without new alterations, until in 1846 and 1847 it was suppressed as a matter of fact, like the excise enacted on national fruits and goods, by the North-American forces at every place they occupied during the war which ended at the middle of 1848; and although even after the conclusion of the treaty of peace with that nation, the governments of the States where that impost had been suppressed *resisted long time its restoration* accepting the system of direct taxes to cover the want of that revenue, the other States that had not been invaded during the war, continued enjoying it, and at length, a law was issued dated October 9<sup>th</sup> 1851, establishing the duty anew and raising it to 8 per 100, divisible by half between the General Government and the States; but several of these having refused to collect that quota considering it excessive, a decree was issued on March 8<sup>th</sup> of the present year (1853), reducing the same to 5 per 100, so that, with the one and a half called of department and mercantile courts, to-day it amounts to six and a half per cent.»

It appears superfluous to state these imposts were not abolished by the Ordinance of 1856.

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The reader, may be, will tax us with pessimism; and notwithstanding, the obstacles and shackles our commerce was subjected to during the unfortunate epoch of our political anarchy, were much more numerous than it appears from our precedent relation. We have said nothing of the *toll* or impost, either federal or local or both at the same time, that was exacted from all cars, coaches, beasts of burden or saddle and even from mere travellers on foot, who made use of the utterly bad roads the country was endowed with; nor have we said anything of the merely local gabels they imposed on commerce, especially at Veracruz, thus making the whole Republic tributary to one sole town, in order to satisfy (and unfortunately only nominally) so peculiar needs as that of the introduction of drinking water; we have also kept silence about the imposts which under a thousand names like *patent*, *license*, etc., etc., were exacted at any sale by the gross or by retail, of national or foreign goods and which varied from one place to another; we have hardly touched the excises and inland customs and not even a word have we said about the *circulation* imposts with which they charged the remittance of silver to the ports and which were said to be destined to pay the escort which must attend the sums sent from the mining centres to the capital or the custom-houses (this not hindering the governments themselves to seize the *conducts* sometimes), nor about many other gabels and restrictions which constituted as many charges weighing on the merchant in the first line and in the last result on the unhappy consumer into whose



hands the effect arrived overcharged, not only with the effective amount of high expenses and most onerous contributions, but with the compensation the intermediary exacted, legitimately to a certain degree, to cover the risks he ran in a business full of vexations, difficulties and incertitudes, not the smallest of which consisted in the imminent jeopardy of the *forced loan* decreed not only by revolutionary chieftains, but many times by the very authorities calling themselves the legitimate ones and at the shelter of laws issued by the local powers and even by general Congresses meeting in the capital of the nation (1).

Who, bearing all these things in mind, will wonder that in those epochs smuggling became enthroned to such a degree that it seemed an unhealable organic evil? On one hand, authority oppressing, vexing, trampling, without truce or pity, all legitimate interests; on the other, extense unpeopled coasts and enormous open frontiers all in the most complete abandonment, through the impotence of the governments, what could they produce but fraud and smuggling favoured by the venality of the hungry and demoralised officers? Nor can we be amazed at seeing commerce itself converted into a factor of troubles and revolts promoting insurrectional movements, especially in our distant coast of the Pacific, to raise from the mud of any barracks any chieftain who, erected into an authority, might shelter with the public force, in exchange for a handful of coins, the unloading of whole ships that would have been obliged to pay two, three or tenfold more duties than the cost of the pronunciamiento.

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All these factors exercised a direct and fatal influence on our inland commerce feeding in a large part on foreign effects; and if we turn our eyes to what was happening with the articles of national production, we meet an equally disconsolate spectacle.

Our governments, always in need of resources, maintained the tobacco monopoly as a source of fiscal income; and although several times and by laws in due form terms were fixed for its extinction, they always stumbled against the poverty of the public treasury and when the fixed date arrived, the term was prorogated or the law establishing it, was simply derogated. On the other and, the rent derived from the tobacco monopoly, did not always belong to the federal Government, but several times it passed over to the States to be recovered later on, occasioning thereby unaccountable troubles and grave prejudices to the producers and reapers of tobacco who, moreover, with a deplorable frequency did not receive the price of the merchandise they were compelled to sell the fisc because this seized for other purposes the funds of the tobacco stores. At last, the management of this monopoly was not always in the hands of the authorities, but with frequency, and we might almost say as a rule, it was leased to private companies which, as one may easily understand, drove to extremities the rigour of the prohibitive dispositions that had kept this most important industry paralysed during so many long years, depriving it of the impulse it would surely have received from private initiative if this had been allowed to act freely. The other monopolies of the colonial epoch were abandoned by little and little, either because they were unproductive, like that of ice, or because it was impossible to maintain them, by the want of the raw material in the country, as it happened with quicksilver. Notwithstanding, as we have stated in anterior pages, the monopoly of playing cards, abolished by the Cortes of Cadiz since 1811, revived in 1842, being probably the effect of some urgent fiscal agony.

The result obtained in this way, was that of snatching from the citizens the industries they exercised or which like that of tobacco, might have developed at a large scale favoured by the propitious conditions of climate and soil; and in exchange they wished to introduce difficult, because exotic, industries like that of cotton and wool spinning and weaving and the manufacture of paper charging the country with a great many sacrifices among which we must mention one of great transcendence, the economical war of excise tariffs waged by our States between one another and which has ceased but a few years ago.

(1) In the noteworthy work: *México y sus Revoluciones*, by the presbyter D. J. M. Lewis Mora, vol. I, page 40, and following ones, many of our appreciations will be found confirmed.

Indeed, under the permanent influence of the protectionist principle, the States where a manufactory of cotton, cassimere or paper was raised, thought themselves obliged not to be contented with the prohibition established by the federal laws to hinder similar effects to come from abroad, but by means of excise and inland customs they raised a barrier against cottons, cassimeres or paper produced in another State. And the process which became to be a routine, was very simple: they decreed a very high excise or toll on all the goods elaborated by the manufactories in the State, but they were not applied to these but only to the similar products of other States, whilst with the local manufacturer they made an agreement in the lump whatever his production might be, the excise becoming thus many times reduced to derisive proportions.

The middle and upper classes following therein the ideas of the colonial times, continued looking at



Pier at La Paz (Lower California)

commerce with contempt and their sons, unwilling to descend in social estimation, were obliged to live in idleness or to become lawyers, physicians, priests or soldiers. Hence the preponderance the foreigners acquired from the first times in the exercise of commerce. After the Spaniards and dislodging them completely from certain branches, there came the English who in their turn ceded their place to French and German firms whose personnel adapted more easily to our customs or sooner acquired our language.

The phenomenon was to be observed first in wholesale commerce which requires more extensive knowledge and capital; but soon it extended to retail commerce where the Mexican at the beginning was unwilling or unexpert to become a merchant for his own account, afterwards was obliged to be contented with the mere role of clerk or employed of inferior category, to such a degree that, not many years ago, and in the very capital of the Republic, the persons acquainted with the locality could easily count by heart the firms whose owners were no foreigners. The Mexican was exclusively limited to the *estancuillos* or tobacco shops, to small ward shops and other branches of commerce equally poor and inferior (1).

(1) Another cause of the abandonment of commerce by the natives has well been emphasised by the Argentine publicist Dr. Nicholas Bolet Peraza in the following lines: «As soon as war breaks out, the national merchant is obliged to affiliate in the party of one or the other of the belligerents, thus interrupting his business with the rest

This situation, in public conception, was not the Mexicans' fault, but the foreigners', and as always, it occurred the omnipotent legislator to prohibit them, by decree of September 23<sup>rd</sup> 1843, all commerce by retail. It is superfluous to state, such a prohibition could not be carried into effect; but of such a state of things a most grave evil was to derive and really resulted, being, albeit, inevitable: the intervention of ministers and diplomatic agents in our home affairs, because the foreigners when victim of some of so many attacks individual right suffered and which many times attained the proportions of actual attempts, claimed the protection of his minister who frequently exaggerating matters and even sheltering interests of very doubtful legitimacy, induced his government to deplorable, and sometimes shameful for all, interferences. Remember among other well known facts, the bombardment of Veracruz in 1839, by the French navy and the Spanish, French and English *Conventions*, whereby, under the guarantee of international good faith, our governments bound themselves to acknowledge, liquidate and pay the credits which the subjects of these nations had against the public treasury either for unfulfilled contracts or for prejudices caused in our interminable revolts. And the Mexicans being aware that against the arbitrariness and the vexations of the authorities the only pretty efficient shelter was to be met as the legations, there were many, especially among those who most speculated with the public treasury and obtained the fattest gains by means of usurious contracts, had recourse to the unworthy expedient of renouncing their nationality and place themselves under the protection of some foreign minister.

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It is wearisome for the mind to consider and for the pen to write so continued a series of misfortunes; and omitting the relation of others of minor moment, we shall only consecrate a few words, for its gravity and importance, to the funest error which regarding the monetary regime was committed during the mournful period whose history is occupying us.

This error consisted in the unlimited coinage of divisionary copper money without restraining its discharging power and by merely stating the fact it is easy to understand its lamentable consequences for commerce and public wealth in general. A first law of March 28<sup>th</sup> 1829 authorised government to have six hundred thousand pesos coined in that money; and afterwards, on August 11<sup>th</sup> 1832, this authorisation was widened, rendering it quite illimited and without any other control than that of informing Congress from time to time, about the sums coined. In the hands of governments always in bankruptcy and who besides wholly ignored the most elementary economical laws, this faculty must needs become soon converted into a fountain of resources to profit of the difference existing between the cost of the metal augmented by the coinage expenses and the fictitious value the law gave it. Thus effectively it happened and doubtlessly the public trouble had become most profound when by the law of January 17<sup>th</sup> 1837 the panic appears evidently dominating the Congress which sanctioned it ordering a Copper Money Amortising Bank to be established whose directors ought to be a person named by Congress, an ecclesiastical dignitary designated by the metropolitan chapter of Mexico, a merchant, an agriculturer, and a mine owner, each of whom possessed at least a capital of one hundred thousand pesos and were elected by his guild. This Board was invested with most ample faculties, «not being otherwise dependent on government than to give it a yearly account of its administration,» it was endowed with funds deemed sufficient, including «the lands of national property existing throughout the Republic» and the produce of the tobacco revenue «which will be restored to the system of State monopoly in the whole Republic, excepting Yucatan,» and it was authorised to emit bonds in order to redeem the copper money and to

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of the country or abandoning the same completely and thus leaving the foreigner in full possession of the industrial field. Government respects and protects the latter and the revolutionaries dare not molest him. Thus sheltered he does business, buys, sells, goes and comes, availing himself of this singular monopoly, the more legitimate as we ourselves the citizens have granted it him meanwhile busying ourselves in the grateful task of fraternally slaughtering one another.»

admit the capitals it might be intrusted with and for which it might allow a *premium of eighteen per cent a year* and even to negotiate a foreign loan of four million pesos.

This will demonstrate the magnitude of the mischief that ought to be repaired and to whose calamitous consequences we must still add that many States of the Republic, among others San Luis Potosí, Zacatecas and Guanajuato had recourse to the same *financial expedient* which on the bottom was nothing else than the emission of false money whose quantity was increased by the imitation that easily could be made and effectively was made by private persons, beyond and within the country.

Let us state, to conclude this subject, that on December 6<sup>th</sup> 1841 this Redeeming Bank was extinguished, the pending affairs being left at the charge of a special section of Treasury, and that according to the most authentic statements, bonds were emitted called *copper bonds* for more than 7,500,000 pesos, albeit the money was taken back only at 50 per 100 of the fictitious legal value that was given it when it was put into circulation.

It seems almost superfluous to state there is a complete lack of mercantile statistics during those turbulent epochs and hardly by some stray notice in reports and other finance documents we may get an approximate knowledge about the bulk of our importation and exportation commerce. Mr. Lerdo de Tejada, gathering those statements with laudable laboriousness and making therefrom ingenious inductions, contrives to reckon the Republic's average importation, between 1821 and 1853, at twenty million pesos a year (1), remarking that in the last of the expressed years and perhaps in the immediately preceding ones, that sum might be estimated at twenty six million pesos, a figure that may be verified with the statements supplied by some of the foreign statistics with whose help Mr. Lerdo de Tejada came to the conclusion that in 1853 we imported goods of the following values, calculated after their arrival at our ports:

From England . . . . .	\$ 12,500,000
» France . . . . .	» 4,500,000
» Germany . . . . .	» 1,850,000
» Spain . . . . .	» 700,000
» Belgium . . . . .	» 300,000
» Sardinia . . . . .	» 90,000
» United States . . . . .	» 4,500,000
» Guatemala, Ecuador, New Granada, Venezuela and Chile . . .	» 250,000
» Island of Cuba . . . . .	» 600,000
» India (2) . . . . .	» 710,000
TOTAL . . . . .	\$ 26,000,000

As will be seen by this summing up, the Spanish products had lost very much ground in our importations, being substituted by those of England, France, United States and Germany; commerce with the other Hispano-American Republics continued being insignificant, and the Asiatic traffic which had received a death blow through the cessation of the political relations formerly existing between New Spain and the Philippines was estimated, in 1853, scarcely at 700,000 pesos representing not only the

(1) Illustrious J. M. Lewis Mora (*México y sus Revoluciones*, vol. I, pages 44 to 46) estimates that in the economical year 1831-1832 the declared importations ascended to 22,833,842 pesos. This statement may be exact respecting that year, but we think Mr. Lerdo's estimation more trustworthy.

(2) Mr. Lerdo de Tejada classifies under this head our Asiatic imports made from Canton and Manila to San Blas and Mazatlan.



Already in the part of this book consecrated to our political evolution, a master hand, to be sure, has made the historical synthesis of the events succeeding one another from the coup d'état we have alluded to until the restoration of the Republic in 1867. The war of three years or of the Reform, the triumph of the liberal cause at the end of 1860, the landing at Veracruz of the armies of England, Spain and France, the withdrawal of the two former before the reality of facts that had been unworthily and falsely exposed in Europe by the coryphees and representatives of the conservative party, the Napoleonic adventure for which the French people was to pay so dear, the nightmare of Maximilian's empire that could not pull down the Reform and only pretended to revise the nationalisation operations, the war without truce and everywhere, that is what fills up that decade.

What can we say about commerce during that agonising period of tremendous crisis? Nothing, to be sure, but would be a repetition of our anterior misfortunes. Let the discreet reader ponder about it; and to give an idea of the state of feverish agitation the country passed through, it is enough to say that the Empire itself, although it wanted to reform all and issued many laws, scarcely touched the tariffs of 1856 limiting itself to modify for Veracruz and the other ports occupied by the French troops some of its particular dispositions. As for Mr. Juarez's government, what could it do regarding mercantile affairs? The question was to save the banner of the fatherland, sustained by the President, his cabinet and a small group of faithful believers who contrived to take refuge to Paso del Norte, last term of our boundary... All the rest disappeared before the supreme interest of keeping the nationality from shipwreck.

## CHAPTER III

### FROM THE RESTORATION OF THE REPUBLIC TO THE PRESENT EPOCH

WITH the military occupation of the town of Mexico on June 21<sup>st</sup> 1867 and the settling there, a few days later, of the government of Mr. Juarez, the Republic was restored and it may be said the Constitution of 1857 began to be in force.

More than ten years had gone by since by the beginning of the Ayutla revolution there commenced the deep political, religious and economical crisis that had maintained the country in a constant and never, not even for one day, interrupted war; however, at length, after so long and rude a trial, the nation had come out of it, like from a crucible, purified and free of the elements which until then had hindered it to grow.

The government shops and monopolies had fallen to ground; the prohibitions although they were still inscribed in the Payno tariff or Ordinance of 1856 which continued in force, were not made effective, because they were contrary to the Constitution; although the nationalised estates were still suffering a depreciation on the market imposed by the religious prejudices which time alone was to cause to vanish, mortmain was come to an end and not only had the thousands of former tenants and farmers of the estates belonging to civil and ecclesiastic corporations become converted into owners, but the territory was freed from the immense hypothecary charge represented by the capitals lent by the Church, the sole banker before the Reform. The social mass had thus recovered what a secular work had slowly and implacably abstracted from circulation and that infusion of blood might be expected to produce a strengthening of the organism before doomed to a deep anemia.

On the other hand, the attitude of the European nations that without exception recognised the imperial government which Napoleon III's army brought and was unable to sustain, permitted the Republic justly and honestly to disavow the validity of the diplomatic conventions which in illfated days had been concerted to shelter not always legitimate credits to whose payment the best part of public revenue was

men who began it and those who adhered to it, group together to form the actual Mexican liberal party which could reckon at last on the support of the whole nation.

Those men came from a new generation which, in spite of the influence and power of clergy and the governments, calling themselves conservative, had got instruction and enlightenment in those books which the tariffs forbade to import because they were «prohibited by a competent authority;» all or most of them were professionalists of the civil order and many derived from the disinherited and oppressed middle class; and although it may be certain that after the judgment of many of them, the salvation of their country exclusively depended on the solution of political questions and that, placed on this ground, they contrived, when the Constitution was formed, to limit excessively the faculties of public power and above all of the Executive, in an excessive manner regarding our social state, it is not less sure, at any rate, that among the liberties they aspired to grant, they endowed us with the economical liberty this being that on which actually depended the frightful problem to constitute a nationality with dispersed, incoherent, heterogeneous and even antagonic elements in spite of more than a third of a century of independent life.

Therefore our constituents, perhaps most of them not quite conscious of doing a most fecund economical work, inscribed among the political rights numerous precepts of a purely economical order and not only sanctioned the freedom of work and the professions, but abolished the privative laws, the special courts, the administrative selling shops, the monopolies and the prohibitions pretending to protect the industry; they guaranteed private property, settling it could not be seized but on behalf of public utility and with previous indemnisation; they deprived civil and ecclesiastic corporations of all capacity to acquire or manage landed estates with the exception of the buildings directly and immediately destined to the service or aim of their institution; they reserved for the Federacy the faculty of coining money, to contract loans on the national credit, to settle the general bases of mercantile legislation, to issue tariffs regarding foreign commerce and to hinder by means of general bases that in the commerce from State to State onerous restrictions were established and prohibited the States to coin money, to emit paper money or stamped paper, and to establish tonnage or other port duties and to lay taxes or duties on exportations and importations, without the permission of the Congress of the Union. Lastly, in a special article, they provided that for the 1<sup>st</sup> of July 1858 the excises and interior customs were abolished throughout the Republic.

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We all know what happened as soon as the Constitution of February 5<sup>th</sup> 1857 was promulgated: government itself which ought to have been its most zealous guardian, frightened before the liberal work, declared it impossible to be accomplished and an ignominious coup d'état kindled with more fury than ever the political passions, obliging the president of the Supreme Court of Justice, modest and venerated lawyer Benedict Juarez to assume power and to attempt the epic struggle called by history the *three years or the Reform war*. Amid the same the liberal work of redemption became consummated, for not only was freedom of worship sanctioned before which the Constituent Congress itself had retroceded, but they decreed the absolute independence between Church and State, the dissolution of the religious communities and as a coronation of this immense labour of social transformation, the nationalisation of the huge ecclesiastic estates which, at often derisive prices, were sold to whom wished to purchase them thus to render them to circulation wherefrom the mortmain had abstracted them producing a stagnation that kept all the nation's activities and productive forces paralysed and gagged. The step had been made: the leading principles were radically shifted this once and from the new seed, if it germinated, a new tree was to be expected.



VOL. II. — PARTS SIXTH AND SEVENTH

Commerce and national wealth

**Mexico. — Commercial district: Goldsmiths' Avenue**







Let us now examine these laws with some show of enumeration, calling briefly to recollection the situation in which it was in 1867.

The republican Government, as we have already said, found the Ordinance of 1856 still in force, and in the midst of the immense labour, more to organize than to create the public Administration in all its branches, the very important Exchequer was left in the hands of the illustrious Joseph Maria Iglesias, who had been discharging this duty since 1864, and with Mr. Juarez and Sebastian Lerdo de Tejada, formed the trinity of lawyers who had presided at the defence against the intervention and the empire.

The health of Mr. Iglesias did not permit him to bear the extremely hard material labour, which the office as Minister of Finance imposed upon him, being succeeded in his place by Mathias Romero, an other lawyer. In his Memorial, in which he gave an account of his acts in the Congress of the Union in February of the same year, Mr. Iglesias lets us know, that he designed as a constant norm of conduct and inexorably observed two principles: to impose the federal authority in the management and disposal of the Revenues of the Federation, prohibiting that the heads and local authorities mix themselves in these matters, as it was necessary to consent to it during the war, and not to reduce the taxes by no Government act whatever, as it was formerly the case when contracts were made, generally of a rapacious nature, by which the merchants, making advances on the customs, obtained effectually large abatements on its value. It is to be regretted that not all Minister of Finance, who succeeded him, observed these principles with the same inflexibility as Mr. Iglesias; if this had been done, the great benefit derived from a uniformity of the taxes would have been acquired from then, which we reached at a later period but which was not realizable in former days on account of the absence of fiscal resources and the revolutionary agitations.

As stated before, Mathias Romero succeeded Mr. Iglesias in the management of the Exchequer, one of our public men, whom the general opinion treated with lamentable injustice during their life time, which we are bound to repair by consecrating at least the tribute to their memory, which the patriotism, self-denial, constancy and the high and sound qualities deserve and which they exercised in their immense work. Perhaps we shall return to this matter further on when we have closer seen what Mr. Romero has done; for the present we shall only state, that one of his first acts in 1868 was to declare, by way of a circular directed to all the custom-houses, that the prohibiting orders of the Ordinance of 1856 were not to be put in force, being contrary to the Constitution. He devoted at once most of his praiseworthy efforts to the expedition of a new tariff, in which very important task the House of Representatives took also a great part, and which at that time formed alone the legislative federal power. Special commissions were appointed who presented to Congress a conscientious study on the subject and proposed a general basis for a new tariff, the discussion of which commenced towards the end of 1869. Probably *el pronunciamiento* of that year, the insurrectionary movements which slowly verified themselves, and lastly the so called «La Noria» revolution, divided the House profoundly and were responsible that those legislative labours were suffered to be defeated. It is certain, that under the shelter of the law, which granted to the Executive extraordinary powers in the ministries of War and Exchequer, in order to combat the revolution, the tariff, which Mr. Romero had prepared and which put an end to the dominion of the Ordinance of 1856, was published on the 1<sup>st</sup> of January 1872, laid serious restrictions to traffic through a long list of additional duties and a not shorter series of procedures and formalities. We may say in passing, that the prospect of a new tariff had created intense confusions to the public treasury as well as to importation, because the latter restricted its orders in expectation of the new law and the former saw that the custom receipts declined considerably.

In order to give an idea of the evils that afflicted commerce and the spirit that presided at the formation of this tariff, there is nothing better than the circular of Mr. Romero which accompanied it and which in its conducive part said the following:

«The President has not deemed the actual circumstances the most favourable to introduce radical changes in the present tariff and he considers, on the contrary, that the work of the Executive should

allowed; and although such credits were not, and ought not to be, disowned or denied, it was possible at least, to undertake their depuration and regulation, at the same time as the remainder of public debt. Moreover, the nation had acquired confidence in her forces and the foreign ministers, whatever nation they might represent, would no longer be personages of irresistible influence whose exigencies it would be impossible to oppose.

In one word, national independency had been conquered both within and abroad and it was licit to hope that in the future, the governments, the Republic would give herself, would be those who would in fact, according to law and public convenience, effectively manage the destinies of our native country.

Many problems still remained on foot (it would be impossible to deny it), because since 1821 not only time had lamentably been lost, but the roads, until then followed and which almost always led astray, had engendered erroneous ideas which must needs be rectified and detestable in many conceptions social habits it was urgent to amend. Besides, the popular mass continued in ignorance and a great part of the middle class, who had not been endowed with a solid and positive instruction, had only a very imperfect and lamentable social education, mixed with highly dissolvent and anarchial political ideas, a result of the unshaken reaction, which the commencement of a liberal era is bound to bring forth, when it succeeds one of restrictions and of real despotism without any transition and by violent means.

On the other side, the social and economical reforms cannot be implanted in a day, for only a fanatic can believe, that the inscription of liberal principles in the laws would be sufficient for liberty to exist. It is a gift that only comes to men and nations who know how to be worthy of it; wherefore, and more than for many other things, an intellectual and moral discipline is an indispensable element, which transfers a supreme head to efficient subordination, and who acts within fixed superior rules without ever infringing them, whatever the case may be. And as this cannot be done off hand, it is not surprising, that many years after the restauration of the Republic, we continued to be the victims of our old errors, until science substituted empiricism in a permanent way, in the direction of our economical interests, and a governor of really remarkable personal qualities found the method to bring the scattered factions under control, employing them usefully in favour of peace and tranquillity, which in former times had slowly accumulated in manifold forms.

These results could not have been realized, if the dispositions created by the tendency towards the liberty of our fundamental laws had not been propitious to the national evolution, and as these dispositions did only exist with us after 1867, it may be taken for granted, that only then commenced the real mercantile evolution of Mexico, as will be seen by the subsequent pages, where we shall try to make the concatenation of elements perceptible, which have fixed the present state of our commerce in every one of its branches.

Entering at once upon facts, we shall occupy ourselves, in the first place, in giving an idea of our tariffs, on account of the great influence which the laws of this nature have on international commerce.

There are five of them that have been issued at the period in which this part of our work refers to: the first was the work of the celebrated statist Mathias Romero, which was published on the 1<sup>st</sup> of January 1872; the second was promulgated on the 8<sup>th</sup> of November 1880, when Emmanuel Toro was Minister of Finance; the third and fourth were sanctioned on the 24<sup>th</sup> of January 1885 and 1<sup>st</sup> of March 1887 respectively, when the aforesaid office was filled by Emmanuel Dublan, but both decrees have been considered as the work of his first Under Secretary Joseph Antony Gamboa, for many years Administrator of the Custom-house at Veracruz; the fifth and last, decreed on the 12<sup>th</sup> of June 1891, shortly after the death of Mr. Dublan, was authorized by the said Mr. Gamboa as chief at the Secretary's office, and although, in formulating the same, a special commission intervened, Mr. Gamboa presiding, his opinion being preponderant.



XV. »To unite in one body the various determinations, as regards foreign commerce, scattered over different Ordinances and present dispositions, for which reason it is difficult to have them in sight, especially for exporters of goods residing abroad.

»At first sight one would believe that the quotas of the tariff have been increased, as in comparing them with the tariff in force, it will be noticed, in fact, that they are much higher. This difference proceeds from two principal causes: the first of which is, that all duties, which with different names are at the present moment paid in the federal Exchequer on the importation of foreign goods, are put together in the new tariff, which do not figure in the quotas of the present Ordinance; and the second reason is the relation that exists between the yard and pound, which are the units of measure and weight upon which the duties of importation in the present Statute are calculated, and the meter and kilogram, which serve as a basis in the new tariff.

»Foreign goods pay actually to the federal Exchequer the following duties on their importation into the Republic:

Duty on importation. . . . .	100 per 100
Duty on material improvements . . . . .	20 » »
Duty on railroad . . . . .	15 » »
Entry duties . . . . .	10 » »
Duty on control . . . . .	25 » »
Municipal duty. . . . .	3 » »
One dollar duty on bulks weighing eight quarters as a substitute for toll, equal to . . . . .	9 » »
Duty of exportation on coin, which at the rate of 8 per 100 on its value, is equal to the rate of importation of the present tariff, according to the calculation made and in consequence of the official data of the last four years, at . . . . .	35 » »
TOTAL. . . . .	217 per 100

»The method employed, in order to unite in one quota the different duties at present paid by foreign goods imported in the Republic, had therefore to be reduced, to increase the quota of the present tariff with 217 per 100.

»To this quota an abatement of 12 per 100 was made, with which the real increase has been 205 per 100.»

As it will be seen by this circular, though not so clear as one would wish it to be, and for this reason we shall have to dwell upon, Mr. Romero offered for discussion to resolve in the tariff the most important of our traditional question on the subject of importation and exportation.

The first referred to the excise duty, which so much and for such a long time paralyzed our commerce, so much on account of the formalities required for its collection at the inland custom-houses as for the variety of its quota. Mr. Romero had good reason in maintaining, and what had already been assigned by the law of classification of revenues of 30<sup>th</sup> of May 1868, «that the duties on importation and those collected on foreign goods at the maritime and frontier custom-houses» (1) belonged to the Federation; on the other hand, the Constitution prohibited to the State to fix harbour-dues and to burden the importations and exportations without the consent of the Congress of the Union, and with such solid principles, articles 19 and 83 of the new tariff prescribed, that the only duties levied should be those enacted in it without allowing the States nor the Municipalities to fix others, unless Congress gives them permission for it, and that neither at the places of transit nor at the excise places should any duties be caused to be paid for goods that already had satisfied those of importation.

(1) Nevertheless, this law allowed the former authorization that the Municipalities of the ports collect a real per parcel.

rather be limited to simplifying and remodelling operations, accepting in general as basis to the new tariff, the substance of that fixed in the Ordinance and the laws in force.

»Starting from these principals, the new tariff was framed, with which the Executive believes that the following advantages will be obtained:

I. »To put under one head all the various duties, which under different names foreign goods imported into the Republic pay at the present moment, be it at maritime custom-houses, at other offices, or direct on the same goods or on national effects exported to pay for the value of those, allowing a reduction on the actual quota.

II. »To enact the duty of importation as a general rule and as a fixed quota, leaving the basis of the value of the invoice or appraisement only in those cases where it is impossible to establish a fixed quota.

III. »To augment the tariff with many articles not considered in the present Ordinance in order to avoid the inconveniences resulting from the different quotation made at the various custom-houses on the said goods. The number of classified goods in the tariff of the present Ordinance is five hundred and twenty five while in the new tariff they come to more than eight hundred.



Veracruz. — The new Custom-House, planned and being constructed by the engineers Echagaray and Latine

IV. »To abolish the prohibitions.

V. »To enlarge the list of free goods as much as possible, exempting them from all duties, with the difference to that resolved in the present tariff, by which only part of the duties are exempted. According to the Ordinance of 1856 the number of goods free of duty is thirty four, while in the new tariff they come up to sixty three.

VI. »To abolish the onerous restrictions put on the transit in the Republic of foreign goods on which the duties of importation has already been paid.

VII. »To establish uniform duties on foreign goods, which has the advantage of bringing the mercantile operations of the whole nation to a level.

VIII. »To grant to national ships the exemption from light-house duties, making foreign ships pay it but only in ports where a light-house exists.

IX. »To enact that the duty of pilotage is only to be paid by ships that ask for the service of a pilot.

X. »To grant to foreign commerce the possible exemption from taxes, to facilitate the exportation of national produce and to open our coasts to exportation.

XI. »To authorize the exportation of bullion with the sole restrictions which the faith of the Republic, demands bound by the contracts, made with the lessees of the mint.

XII. »To authorize the transit of foreign goods through national territory.

XIII. »To simplify as much as possible the custom-house methods to the benefit of importation.

XIV. »To adopt, according to the law of 13<sup>th</sup> of March 1857, the metrical decimal system in weights and measures; and

territory, imparted some transit through the State of Sonora by whay of Arizona and the South of California. Surely it was from that Mr. Romero authorized and ordered this commerce, first by a special law of 25<sup>th</sup> of December 1871 and afterwards in the tariff of 1872, certainly in a sufficient liberal manner and by virtue of a 5 per 100 duty of importation.

Francis Mejía succeeded Mr. Romero as Minister of Finance in June 1872, holding that post nearly to the end of Sebastian Lerdo de Tejada's presidential period. No radical reform whatever of the tariff was then attempted and the governmental action in this matter was limited to the enacting of some laws, decrees and numerous circulars, making not always well aimed modifications of details to the tariff and explanations to resolve the doubts which its application brought forth.

The two first Ministers of Finance of the government emanating from the revolution of Tuxtepec, Mrs. Justus Benitez and Joseph Landero y Cos, busied themselves in reorganizing the financial service, again discomposed, neither did they introduce any changes of importance in the tariff, confining themselves to resolve cases of doubtful application of their precepts.

Mr. Romero's new entry in the Ministry of Finance in May 1877 was characterized by important reforms, always in a liberal sense, amongst which those of reducing the quotas on Virginia tobacco, on wire for enclosures, on plates for roofing, on neckerchiefs, tea, cinnamon and other effects; that which was declared free for the benefit of the mines, as sulphur and hyposulphite of soda and those giving certain privileges to steamers calling regularly at Mexican ports.

The smuggling was the greatest enemy against which Mr. Romero had to combat during this period, for it acquired such importance, especially on the Northern frontier, that it created a real public calamity, as much to the public treasury as to bona fide commerce.

He, who is familiar with our political history in those years, will remember, that the United States Government did neither easily nor promptly recognize the Government emanating from the Tuxtepec revolution, and even serious fears of an international conflict with our powerful neighbours were entertained. It is clear, that this tension of our relations gave vigor to the frontier smugglers, who under cover of the privileges which the so called free zone had enjoyed since 1858 (to which we shall give our special attention further on), redoubled their boldness, even to the extent of sustaining real battles with the public force, overflowing with the produce of their exploits the inland markets, which on their side complained to the Government in order to put a stop to such grievous evil, which made bona fide commerce enormously difficult.

To remedy it, Mr. Romero not only directed the measures already referred to, but he also issued a new regulation for the vigilance of the Northern frontier, enacted in 1871, and which later on was converted into the «fiscal Gendarmery», a kind of police-body militarily organized to repress smuggling.

At this epoch Mr. Romero insisted upon his intentions to free all national products for exportation from burdens, especially precious metals and to this effect he directed a special initiation to the Congress of the Union; but again the fiscal needs opposed the realization of such a beneficial scheme.

Trinidad Garcia, successor of Mr. Romero in April 1879, persevered in his intentions of repressing smuggling with iron hands, and during his duration at the Ministry of Finance promulgates the law of 3<sup>rd</sup> of June 1879, legalized by the Minister of Justice and Public instruction, Protasius P. Tagle, that firstly, he raised smuggling with us to the category of crime, punishable up to five years imprisonment, which was doubled for disloyal public servants, publication in newspapers of the name of the smuggling firm and disqualification of having any relation or practice mercantile operations with public offices. The influence, which this severe law, the injunctions of which subsisted in the Custom-Ordinances posteriorly issued, exercised on the repression of smuggling, has been notorious; and although in Mexico, as every-

What progress would have been made in the way of abolishing the excises and inland custom-houses, if these wise dispositions had been kept in force!

An other of the traditional problems which Mr. Romero also resolved in a highly liberal and beneficial sense, was that relating to the exportation of silver and gold bullion. We have already seen in the previous chapter all the contradictory laws dictated on this subject since the Independence and how insuperable the difficulty was considered to be, which, in order to allow the exportation of uncoined precious metals, the contracts of letting on lease the mints opposed.

As Mr. Romero attained from Congress the issuing of the law of 7<sup>th</sup> of January 1869, which permitted the free exportation of ores and of which those contracts do not speak, and enacting that the bullion pay on exportation the coinage duty, being those affected by the covenants, which, however onerous they may be, had to be respected, lent to our most important industry, that of the mines, eminent service by giving the formula to clear the way of the legislator of the obstacle which the lessees of the mint had opposed him. Fortunately this victory was a solid one, for although those hateful contracts of letting on lease the mints, which Mr. Romero wished to abolish from 1869, still lasted till 1893, did not impede any more the exportation of our precious metals, neither in ores nor in bullion.

Mr. Romero did even go farther in his tariff, for not only did he maintain the free exportation of ores and bullion, paying the coinage duty, but also declared all our produce, including the precious metals coined and in bullion, free to leave the country. The opinion had to be sympathetic to the measure in all that did not refer to coin and bullion; but as to the latter, the preconception, that it was convenient to the interests of the country, had not ceased, at least to render its exodus from the Republic difficult, Mr. Romero, as seen by his circular, repaired to the expedient of increasing the duty on importation in compensation of the exemption from imposts granted to precious metals, perhaps so as not to provoke the dominant opinion and not to deprive the fisc of the income derived from the duty abolished.

Unfortunately, and probably through the political circumstances created by the revolution of 1872, to which we have already referred, the government was impotent to maintain such wise reforms in its whole extent: the public outcry raised against the tariff quotas, which already unified seemed to be very high, and the exigencies of the States, seeing that they were going to be deprived of the excise duty which they received, determined Congress, in approving the budget on 31<sup>st</sup> of May of that same year, and even before the new tariff came in force, to derogate articles 19 and 83, alluded to already, to order, that in the Federal District and territory of Lower California, an excise duty of 6 per 100 on that of importation should be established, and to reinstate the duty of exportation on gold and silver coined and in lingots, but to reduce them to  $\frac{1}{2}$  per 100 on the latter. Instead of which it was ordered that the quotas of the new tariff should be adjudged to a reduction of 10 per 100.

Finally, in the same year of 1872, an exportation duty of five pesos per ton was enacted on dyer's orchil, a plant, which at that time commenced to be explored in Lower California and which, like the cochineal, has afterwards lost its importance, substituted by cheaper products, which, thanks to the progress made in organic chemistry, modern industry elaborates.

Thus it was, that these important reforms fell to the ground which Mr. Romero aimed at to realize in the tariff of 1872, which will still occupy our attention with regard to commercial transit, for it is the first law of this kind, that treats on this matter.

In the epoch of intervention, and for the first time in our mercantile history, the phenomenon happened, that we had a commercial transit. The war of secession in the United States caused the blockade of the South American ports, impeding the exportation of cotton, which formed the principal wealth of the separatistic States. The Mexican frontier, which was in possession of Mr. Juarez, gave then exit to the enormous production of cotton in the South, principally through the port of Matamoros. This commerce, which certainly furnished the poverty stricken liberal fisc with opportune resources, diminished considerably at the termination of the Civil war in the United States; but the effect had already been produced, and besides, the want of rail-roads which our neighbours laid afterwards down in the southern parts of their



the transit of foreign timber by river and ports of the Republic. Foreign liquors and intoxicating drinks were burdened with an additional duty of 30 per 100 on its wholesale selling price; and still worse than all the others, was an additional duty, which was called «on bulks» from 50 to 100 centavos for every 100 kilogram of weight, established on all foreign goods, even if they were of those free of importation duty, framing, to make it effective, a long special tariff, published on the 25<sup>th</sup> of June following.

All these increases were made without reducing in the least the duties on importation; and as if that done were not already sufficient, an augmentation in the stamp duty was decreed, by which tobacco in leaf or manipulated was subjected to that impost and in the odious form of fixing a stamp, the value of which varied from half a centavo to a peso, on boxes, packets or wrappers of national or foreign tobacco which were housed at «the places specially, secondarily or accidentally appointed for sale in retail.»

The budget of the following year of 1882, which was no more framed by the Minister Landero y Cos, but by Mr. Fuentes y Muñiz exempted some, though few articles from the duty «on bulk» and abolished those of exportation on gold and silver in coin, bullion, dust, ore or any other form, being substituted by a stamp duty of  $\frac{1}{2}$  per 100 on silver and  $\frac{1}{4}$  per 100 on gold, in whatever form it may be except that of money. From thence dates the abolition of the impost of exportation on the national money, fortunately never repealed since.

The budgets of the following year left the tax-payer relatively in peace; but the whole year of 1884 was one of sufferance and calamities for commerce, for the pecuniary difficulties of that corrupted Government carried it to the greatest extremes. Though only in passing, we will remind our readers of the issue of nickel-money, a repetition, though on a minor scale, of that of copper in 1836, and the necessity in which the treasury found itself, in order to attend in a very bad manner to the most urgent public requisites, to issue special custom-certificates, in which it was obligatory to pay part of the import duties, the proceeds of which were destined to satisfy the loans made to Government and to the subventions promised to the Railway Companies.

The consignment of the custom-house revenues, made in this form, became so important that, according to the circular of 12<sup>th</sup> of February 1884, it reached at that date 57 per 100 at all the custom-houses; in that of Veracruz, which has always been the most important, it came up to 76 and at Matamoros, Tampico, Manzanillo and Mazatlán to 78 and  $\frac{1}{2}$ . It was very fortunate for the treasury, commerce and the country in general, the existence, at that calamitous epoch, of the National Bank of Mexico, a solid and influential financial institution, which already had made itself worthy of the public confidence and which undertook to realize those custom-house certificates always in silver at par and to distribute the proceeds amongst the different creditors. Without this condition of things, we should still have seen in 1884 the same custom-house regulation and the same discounts on duties, which were the daily bread of all the Governments at the period of our political anarchy, which caused so many and so profound disorders to national and foreign commerce.

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It was the second Administration of general Porphyrius Diaz that put a stop to this tremendous confusion, and whose Minister of Finance, Emmanuel Dublan, made haste, in the midst of the afflicted state of the treasury, to reform the laws in force referring to custom-houses.

Perhaps it would have been prudent to return in such difficult moments simply to the tariff system of 1872, unified in that of 1880; but probably the immediate consequence of a diminution in the fiscal income was feared, or had confidence in a radical change of the system, inspired by men who perhaps had empiric experience but certainly not that of science, which unfortunately the facts we are going to relate, did not justify. Be it as it may, it is certain, that hardly had the new Administration been inaugurated, the custom-house Ordinance of 24<sup>th</sup> of March 1885 was issued, in which many and very important changes were introduced but which, during some time, though through different reasons to those that had up to then brought the commerce of importation out of equilibrium, influenced the con-

where else, there are and always will be people who intend and sometimes succeeded in defrauding the revenue, it is no more the clandestine traffic as it was in former times, a factor which must be taken in account, neither to influence the prices of goods of importation nor to estimate the bulk of our exterior commerce. The mines were also indebted to Mr. García in declaring poor lead or that which did not contain more than five ten millesimal of silver, free from duty on exportation.

It was Emmanuel Toro, successor of Trinity García, who had, on the 8<sup>th</sup> of November 1880, to give fulfillment to that provided by the Congress of the Union in the law of 1<sup>st</sup> of June of the same year, to unify in one body the customs dispositions issued since 1872. This unification was carried out in repeating the integral publication of the tariff of 1872 with the numerous modifications it had suffered during nineteen years.

Our fore-going report, though incomplete, will give to the reader an approximate idea of the differences which this tariff offers to that issued by Mr. Romero. Conjointly one may say, that the duty had been raised 10 per 100, which the law of 31<sup>st</sup> of May 1872 had reduced and ordered to be collected for the first time by that of the 31<sup>st</sup> of May 1878: silver and gold in coin and bullion, timber and orchil paid duty on exportation; the States collected an excise duty on goods, which, in the inland traffic, imposed the inevitableness of shackles, restrictions and requisites and which the original tariff of 1872 wished to abolish. Therefore the state of commerce under all these aspects, had become worse. How an improvement could be effected: the addition of three fractions on free articles, the reduction of some of the quotas and a better description of the goods burdened, for the list of the Romero tariff contained 775 fractions and that of 1880 came to 894, that is to say, it contained 199 new ones, which made the law more intelligible. Finally, as we have already said, the penalties for smuggling fixed by the law of 1879 were reproduced in the tariff of 1880, which, in unifying numerous regulations, simplified the matters referring to custom-houses. If our informations are exact, this meritorious work of unification was carried out by Jesus Fuentes y Muñiz, who later on occupied the post of financial Secretary.

The mitigation produced by the tariff of 1880 lasted but a short time. Under the presidential Administration of general Emmanuel Gonzalez, a tremendous disorder found its way in this as in all other branches, which was so much more to lament, as not only capitals which the construction of our large rail-roads required but also others employed in all kinds of enterprises flowing then in the Republic, the general state of business ought to have improved considerably. The beginning of our economical revival took place at this epoch, and if one had known to give it a channel, the nation would not have stumbled against the obstacles which it had afterwards to remove with painful sacrifices; unfortunately it was not so, and this favourable conjuncture, which with the increase in the revenues presented itself in order to regularize the imposts, to lower the high custom duties, to abolish the excise and, in one word, to engage in the arduous undertaking of a complete financial reorganization, which the afflictions of the treasury had up to then prevented, even Ministers so apt and clear-sighted as Mr. Romero, this conjuncture, we repeat, was not only lost, but it rather turned into a factor of perturbation.

In fact, in adopting the system, or better said, the lamentable corruption to vary the quotas and even the basis itself of the most important taxes of the budget, every annual law of income was the motive of disturbances and new burdens to commerce.

That of 31<sup>st</sup> of May 1881, legalized and probably initiated by the Minister Francis de Landero y Cos, was specially hard; for the duty on exportation, already paid by gold and silver in coin and bullion and those for coining, assaying and smelting, caused by the bullion of these metals, were extended to ore and mineral dust, the alloy of which exceeded seven millesimal and in general to silver and gold in all its forms of sulphuret, concentrated and in combination with other metals. The duty on the exportation of orchil was doubled; a recharge of an additional duty of one peso per ton on the exportation of all classes of national timber, for building purposes and cabinet-work and one of one peso fifty centavos on



VOLUME SECOND

1894—

Commerce and national wealth

**Mexico.—Commercial district: Monterilla streets**







1872 enacted before the Secretary of Finance so as to demand the decisions of the custom-houses, leaving those interested in it at liberty to chose the judicial or administrative way to formulate their complaints or claims. The system gave such good results to the fisc, whose interests remained in the hands of functionaries of high character, as well as to private individuals, because it did not judge those that had any interest in declaring them culpable, that the judicial way gave itself up little by little.

Nevertheless, this did not justify, that the appeal to a court of justice should be closed, as it was done by the Ordinance of 1885, giving to the private individual, in the judgement he might have recourse to, the character of an actor with all its troublesome juridical consequences, and which is worse, fix him a very short term of eight days to formulate his demand under pain to consider all action against the fisc prescribed, who reserved to himself and still maintains, amongst numerous and irritating privileges inherited from the colonial regimen, that his actions may not be prescribed or only in very long terms, often lasting over many years. Let us say, once for all, so as not to return to the subject again, that these precepts of the Ordinance of 1885 were, unfortunately, not only never mitigated, but have rather been rendered more intolerable, by accepting the citizens this system without clamoring against it, due to various causes, the examination of which is not here in its place.

The other important change in the Ordinance of 1885 and which we have to point out, was the enacting of special custom-house «estampillas» which the importers received on paying the duties, for the same sum as the amount of those duties, and which must be fixed to the request of total or partial entry into the interior of the goods, and in effecting this, also for the amount of the duties which the goods sent into the interior might have produced. The said «estampillas» (stamps) were delivered to the importers by virtue of a payment of 2 per 100 of its value, which really constituted an additional impost of importation. Was this the only motive in order to decree those «estampillas,» or was it intended to put a new shackle to the fraud on duties? We are inclined to believe the former, because, as a precaution to avoid smuggling, the measure might prove itself to be almost childish, as the merchant had to have, and in fact always had, an excess of «estampillas» in their possession, though it were only for the amount of the duties produced by the goods expended at the port or place of entrance.

To the Ordinance of 1885 succeeded the one of 1887, in which, and we may say with justice, many of the defects, suffered by the former, were corrected. The tariff and its vocabulary were considerably augmented and rendered intelligible: some of the quotas were reduced, many were put in accordance with that logic demanded imperiously, increasing considerably the list of free articles but without arriving to complete that of the tariff of 1880. As to the rest, the general system of this Ordinance was the same followed in the previous one.

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The same happened to the one that was enacted in 1891, but we shall only point out some of the principal reforms made on the one of 1887, because many exist now-a-days.

Firstly, the goods were classified in the tariff, according to new principles, though not recommendable on the whole, in *animal substances, vegetable substances, mineral substances, texture and its manufacture, chemical and pharmaceutical products, spirituous, fermented and natural drinks, machinery and apparatus, vehicles, fire arms and explosives and various others.*

Secondly, on the tariff, which was composed of 921 fractions and on its still more extensive vocabulary, were added 304 explicatory notes, described with details, many times technical, as to what merchandise or product every fraction referred to. This complement of the system, exclusively specific and never by appraisement, made itself already absolutely indispensable.

As for the rest, with the exception of some few quotas, the amount of the duties was kept at the

tinuence of that lamentable state of things. The new Ordinance reduced, in the first place, very much the list of articles free from duties on importation, though not that on bulks, disappearing forty two fractions from it, being reduced to only twenty one. Maize, flour of maize, oats, steel in bars, sulphur, tubes, machinery and all kinds of implements used in agriculture, industry, mines, in sciences and arts, guano, hyposulphite of soda, saltpetre, sulphate of copper, bound and unbound printed books, types and other implements used for printing and in lithography, gun-powder for mines and iron beams, were articles more or less burdened in the new Ordinance. Moreover, nearly all the quotas relating to the tariff of 1880, were surcharged: one may say, in general terms, that the increase was 10 per 100, but much more in number of articles.

On the other side, the system of appraisement was absolutely abolished and not only was the special form adopted, but very few of the fractions of the tariff took the piece, the thousand or the square meter as a unit for the application of duties: the basis was almost without exception that of the weight on goods, sometimes net and at others the gross weight, that is to say, with receptacle and interior and exterior packing and others only with the receptacles or interior packing, which was called «legal weight.» Although the tariff contained 696 fractions, the nomenclature could not be complete and in consequence of which it happened so to the system of «assimilation,» that is, in classifying the merchandise or manufacture which was not expressly named, on account of its similitude to some of those already included in the tariff. This assimilation was commenced really in the Ordinance itself, in an alphabetically arranged vocabulary, which was decided to form a supplement to the tariff and which, by only indicating the number of the article and the number of the applicable fraction, is more extensive than the tariff itself. With regard to the goods omitted in the vocabulary and tariff, the custom-houses were empowered, taking the opinion of experts in consideration, to decide the fraction that must be applied either to assimilation or similitude, qualifying definitely the Secretary of Finance, also with the assistance of experts, with the faculty to resolve the applicable quota, but without having in any way the power of designing any fresh one, except to name exactly some of those fixed.

As some competent persons said, the tariff labored under a lamentable empiricism, in respect to certain sciences and arts, as for instance chemistry and its industrial applications which gave origin to the application of a uniform quota to substances of very different use and price, or on the contrary, to that of quotas very unlike to substances of the same price and use, which resulted highly prejudicial to commerce and industry.

To all this there has to be added, that the Ordinance which we examine (and which unfortunately in this respect was not corrected), singularly complicated the compilement and obliged the importers not only to declare the class of merchandise and its weight, number, measure or quality, but also to designate and even to copy in literal terms the fraction of the tariff which they themselves thought applicable; and whatever error or mistake made in the valuation by the importer, was considered an intention to defraud the fiscal duties and which was severely punished, thus multiplying enormously the cases of punishable infringement.

It would be impossible to point out all the motives of complaint, generally well founded, which this Ordinance aroused; we will only indicate two more of the important changes which it introduced, besides one relative to the «free zone,» of which we shall speak in its proper place.

Our primitive custom-house laws (as already mentioned in an other part) were framed in such a spirit, that all controversy between the fisc and merchant had to be exclusively resolved by the judicial authority. There were many evils that came out of this, the principal of which was to make the only remedy that the citizens had, long difficult and expensive, to repair the injustices done by the inferior officials without considering that a superior authority, though administrative, could easily and expeditiously correct the errors or the bad faith of those officials, above all when that superior authority would not have been personally interested in the pecuniary penalties inflicted, as the judges generally were. Thence the favour with which the short administrative procedure was received and which the tariff of



changed, initiated in that of 1885. No one will pretend that it is the best, neither much less; but if it had been substituted by an other, it would have caused new and profound upside-downs to our foreign commerce, so much in need to our tranquillity. That which has been done, was to correct the principal ones of its numerous errors, now to smooth some roughness, now to modify many quotas and then again to explain the tariff and its vocabulary. Not even the 921 fractions, of which the former was composed of from the beginning, were increased; on the contrary, some of them were suppressed either for being superfluous or unnecessary. On the other side, the explanatory notes have been raised to 318, and the vocabulary contains already four thousand words, more or less. The articles exempt of duty, although they come up to sixty six, are in general of little importance, if one excepts, animal coal, charcoal, mineral coal and coke, hops, wood-paste and residues for the manufacture of paper, quicksilver, the ordinary timber for building, glycerine and some manufacture for the production and transmission of electricity, as for instance, the batteries, insulators, lamps and insulated wire. In general, there are still many very imperfect and little rational quotas and the duties are rather high, with the exception on the machinery and other articles, which formerly were free and now pay a quota of one centavo per kilogram.

Not only do the custom quotas burden our commerce of importation, but also the fees which the Mexican consuls abroad receive in gold in certifying the invoices of remission; these fees are in proportion to the value of the merchandise and may be calculated to amount to two per thousand on the price declared.

There are some additional duties on the quotas of the tariff: 2 per 100, destined to compensate in part the cost of the works undertaken at some ports;  $1\frac{1}{2}$  per 100 handed over to the Municipalities at port and frontier towns, and the 7 per 100 stamp-duty created at the time of abolishing the excises (1).

The special custom-house or inland-entry «estampillas» (stamps) and of which we have spoken before, have been suppressed. The henequen, mulberry-wood, log-wood, untanned hides and skins, and the root of herbs, are, but with easy quotas, burdened on being exported. The precious metals, silver and gold, are subject to an impost of production and to those of coining and assaying. When gold and silver are sent in the mints for coining, which, since 1893, is managed and administered by the Government, those imposts are paid there; when exported in whatever form it may be, they pay, in being previously assayed, at the custom-houses on leaving; but as it will be seen, these duties are not exactly duties of exportation.

The ships calling at Mexican ports are only liable to pay three duties: that of tons, charged on the gross tonnage, the one charged by the Board of Health and that of loading and unloading at the already improved ports. The duties to the chief authorities of the port had been abolished since 1893 and those of pilotage constituted the compensation of effective services rendered to ships, they are collected by the custom-houses in order to be distributed to the pilots almost integrally. The traffic of coast-trading is nevertheless reserved to national ships; but if there should not be any in the port or not in a condition to take a cargo that might be offered, it may be carried by any foreign ship, by paying an «inland maritime traffic» duty, which varied, according to the distance, from one to five pesos for every ton of goods transported.

Is our tariff inspired by protective principles or free trade? In our judgement, and as it was logic to expect after the long dominion the protectionist ideas had taken hold of us, it was they that have originally inspired the custom-house quotas; but unfortunately, as we have already had occasion to prove it in the preceding chapter, our protectionism has not been rational and illustrative, but purely impiric and many times circumstantial, which allows to affirm, that the high quotas have not been an important

(1) Certain goods, as for instance, playing-cards, spirituous drinks and tobacco, produce besides additional duties, which vary between 50 and 15 per 100 from those of importation, some are paid in «estampillas» and others in cash.

same elevation, notwithstanding which, this Ordinance produced a considerable benefit, for, as in former times illimitable extent was not only given to the stamp-tax, but it was prescribed that on certain effects, as alcohol, playing-cards, tobacco and many others, denominated «quoted merchandise» the «estampillas» (stamps) had to be affixed, proving that payment had been made, the retail trade was exposed to frequent penalties, though it acted in entire good faith, for the reason that the stamps could not always be made to stick to objects like cristal, glass or metals. The Ordinance of 1891 abolished this system and although



Mexico. — Interior view of the house Boker and Company

the encumbrance lasted, notice was given that its amount had to be cleared and paid at the same time as the import duties.

The brief stay at the Secretary's office of Finance of Benito Gomez Farías was only characterized by the reform of some quotas, in general little cogitative; and in this state Mathias Romero and his second secretary Joseph Yves Limantour found matters in May 1892. As the former was soon afterwards called to continue in the performance of the important diplomatic mission which he discharged for many years with so much skill and inspired patriotism in Washington, he was followed in the office of the Ministry by Mr. Limantour in February 1893.

In an other place of this book we shall see what was the strictly financial task of Mr. Limantour. Here we shall limit ourselves to certain facts which the reader will appreciate with entire freedom, so as to be able to form an idea of the state in which our customs legislation stood at the commencement of the xx century.

The Ordinance of 1891 has not been totally derogated, neither has its fundamental system been



VOLUME SECOND

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Commerce and national wealth

Remarkable establishments

**Mexico.—Edifice of the jeweller's shop "La Esmeralda."**







or «with the same of national origin,» can only be effected by paying the import duties, which, according to the tariff, answer to similar foreign goods.»

This order gave a death blow to the local industries in that part of the Republic; and although the regulation of 31<sup>st</sup> of October 1896 has to some extent smoothed its keenness, fixing the requisites with which it has to be proved that the agricultural products of the free-zone have been sown and gathered in it, it is certain that the formalities, which the farmers of that region have to fill up so that their products are not being considered as foreign, are very severe and in many cases vexatious. Moreover, the 7 per 100 stamp and the 1 and  $\frac{1}{2}$  per 100 municipal tax, which are paid in the free zone, and this, added to the rise in the exchange, nearly nullify the franchise which our frontier zone enjoys. Finally, the existence of this privilege has more than once been the cause of difficulties with the United States, pretending that from the free zone the smuggling into the American territory is done; for all these reasons, public opinion is already much divided, even amongst the inhabitants of the zone itself, finding themselves disabled to take any part in the industrial movement of the Republic. Consequently it is hoped, that at a near future the exception we refer to may be abolished, finding by an other more efficacious and just mode, as Mr. Romero indicated since 1868, the means to foment the property of our frontier towns.

In conclusion we shall mention an other exception in the custom-house tariff, lately made in favour of the territory, which just now was recovered from the Maya Indians in the Yucatan Peninsula, and where numerous products of first-necessity have been declared free of duty by recent laws. The exception was justified as all was needful in that part of the Republic, which up to a late date only belonged to it by name; but it has been enacted for a very limited time and of a temporary character, which no doubt will cease as soon as peace with the legitimate authorities there has been definitely establishment.

It has already been said, and we have even repeated it in the foregoing pages, that the excises and inland custom-houses created such a great obstruction to commerce, that in the article 124 of the Constitution of 1857 the disposition was inscribed, that they had to be abolished in the Republic by the 1<sup>st</sup> of July 1858. There was nothing practically done in the sense of executing this precept during the Reform war and that of intervention, for although there was not any law of 1861 wanted that repeated the constitutional disposition, it was abolished before six months were over; but hardly was the Republic restored, it was resolved to put an end to the disorder which the discordant imposts of the States caused to mercantile operations, and to this end an other law, initiated by Mr. Romero, that of 2<sup>nd</sup> of May 1868, prohibited them to enact transit duties and to burden the products of the other States with higher taxes than those enacted for their own. We have also given an idea of the efforts made by Mr. Romero to root out the pernicious and anti-constitutional practice of the States to collect excise duties on foreign goods, efforts which the sixth Congress sterilized in derogating certain articles of 1872 before they commenced being put in force.

What was really at the bottom of the resistance encountered by such wholesome principles, was the fear, that the States, as much or poorer than the Federation, would find themselves deprived of that which constituted their principal income, which were those odious and anti-economical, but traditional imposts. However, some of the federative entities, we understand that Veracruz was the first, prescinded of them; and although this widened the chaos consequent to the existence of different bases of tribute within a selfsame social organism, the gloomy problem was not seized with a firm hand and resolute courage, notwithstanding that Mr. Romero having initiated the abolition of the excises before the Congress of 1869 and 1871. And thus the constitutional precept remained simply a written document.

Hereupon some merchants commenced repairing to the federal tribunal in demand of protection against the exaction of an impost forbidden by the fundamental law. The result of these appeals were various and always stumbled against the passive resistance which the administrative power opposed to the decisions

factor in our industrial evolution but that it is due to very different reasons and perhaps to a great extent to the high price prevailing here on all foreign goods on account of the depreciation of our silver money.

Our Ordinance suffers from an other serious defect, also a traditional offspring, i. e. it distrusts as much the importer as the fiscal official. It is only by this, that the heap of intricating and even vexatious formalities is explained, which the Ordinance preserves and which the routine and narrow mindedness of many custom-house officials make still worse. But as the moral standard of these has risen considerably, becoming perfect in the majority of cases, it is no more the general rule that the law and the superior authorities see in every merchant a smuggler and in every fiscal agent one of his accomplices. The evolution worked in this sense has made itself clearly perceptible the last few years and it is licit to hope, that the spirit of impartiality, which in this matter has to rule, will end in overpowering the narrow routine and offensive distrust which so much hinders commerce and keeps back its growing greater. To arrive at this result, order and the severe instructions, introduced at the custom-houses since 1893, will be of great influence, and which have been classified in six categories according to its importance; it has to be observed, that those in the first, the superior officials do no more participate in the pecuniary penalties which they inflict.

It should be time to conclude with this part of our study, devoted to the important factor of the tariffs, but we cannot do so without dedicating a few words to the so called *free zone*, where, since 1858, the principle of the uniform application and the collecting of the duties of importation has come to be violated, through the influence of special motives, as much of a political as of an economical order.

On the 17<sup>th</sup> of March in the above mentioned year, Raymond Guerra, Governor of the State of Tamaulipas issued a decree, enacting, that foreign goods introduced for the use of the towns situated on the right border of the river Bravo del Norte in that State and which, as known, forms our frontier with the United States, be free of import duty and that they only pay a 2 and  $\frac{1}{2}$  per 100 municipal tax. This decree, issued at the time when the federative entity, which remained true to the liberal cause, reassumed its sovereignty through the coup d'Etat, was approved of by law and sanctioned in 1861 by the Congress of the Union. It was then necessary, as a reason for this veritable anomaly, to keep the inhabitants on the Mexican side of the frontier, or else they would have emigrated to the towns which the Americans were building in front of ours, and where, on account of the cheapness of living, life was more comfortable and better. It was also believed that this measure would favour the economic development of our frontier; but the truth is, that it was not so, and besides it was soon felt that the privilege was very easily converted into a case of smuggling on a large scale, for which reason it was necessary to establish since 1871, as we have already said, the body of custom-house officers at the Northern frontier. For these motives and for the inequality introduced in the bases of the most important of our imposts, many of our public men have been devoted enemies of the free zone. Mathias Romero tried to abolish it when Minister of Finance, from 1868 to 1872, but in spite of all his efforts, Congress did not support him at that epoch, for it refused definitely to withdraw this privilege. It is presumed that reasons of home-politics not only kept it on foot but that they gave its influence so as to extend itself to the whole of our Northern frontier, which comprises, besides the State of Tamaulipas, those of Coahuila, Chihuahua and Sonora and the Territory of Lower California. A similar extension was carried out by the Ordinance of 1885 which fixed a line of 20 kilometers to the South of the frontier as the geographical limit of the franchise and this consisted, that foreign goods destined for local use should only pay 3 per 100 of the import duties.

This regimen subsisted according to the Ordinance of 1887, but that of 1891 raised it to 10 per 100 instead of three, which the goods destined for the use within the free zone paid formerly and gave notice, that «the entry into the Republic of products manufactured in the free zone with foreign prime materials



»Foreign goods shall not be burdened with a higher quota than those which consented by federal law.»

This reform, which implicitly permitted the excises and inland custom-houses, as its opponents very well said, and which made them at the same time impossible even if they wished to take their inconveniences away, was closely followed by the law of 26<sup>th</sup> of November 1886, which allowed the States to impose an excise duty on the foreign goods, not exceeding 5 per 100 on those of importation.

Nevertheless, things did not improve, according to what was pointed out in terms of eloquent bitterness in the edict which the same Minister, Mr. Dublan, directed to the Governors of the States in his circular of 30<sup>th</sup> December 1890 in order to celebrate a new Conference and at which the Representatives of the States and those of the «Mercantile and Industrial Confederation of the Republic (1),» would concur and whose plan can be summed up as follows: to celebrate a pact or convention between the Federation and the States to the effect of unifying the requisites and quotas of the indirect imposts called excise, consumption or toll; to study the time necessary for the abolition of these imposts, leaving the States free to derogate them before, and «to classify the duties of toll, consumption, etc., with those enacted in the tariff, relating to similar foreign goods.»

In fact, the Conference met on the 5<sup>th</sup> of February 1891 and appointed three ponent Commissions, which, in adopting and developing the plan of Mr. Dublan, formularized jointly a project, which, as the reform of 1886 or perhaps more than that, not only would have remedied nothing, but would have entangled the condition of the country still more, for at the same time, while reserving to the Federation the right of decreeing indirect imposts, and which prohibited to the federal power and to the States to collect excises, tolls and other imposts which would impede the inland circulation of merchandise, authorized the collection of a duty of 8 per 100 on the value of the sale of national and foreign effects, payable at the time and place of its sale, by means of «estampillas,» an adhesive stamp, which the Federation would issue and deliver to the States, so that these could cash the impost for its own account and according to the rules to be dictated. In order to put these bases in force, a pact or convention for a term of twenty years, would be celebrated between the Federation and the States, without precedents in our history nor foundation in our Constitution (2).

Only one voice rose against this singular project, that of the member for the federal District, Joseph Yves Limantour, who traced the problem and gave the fundamental outlines to solve it under the following terms:

«The question of principle is no more under discussion; the almost unanimous opinion declared in the heart of the Comisión, the unequivocal spirit of the Finance Secretary's convocation and the from day to day confirmed general opinion of our merchants, manufacturers and financiers, definitely condemn that system of contribution, which consists in burden goods in circulation within the limits of our external frontiers, raises in fact numberless barriers, paralyzing its movement, increases its price in entirely unequal proportions, according to the places, which, for this same reason, upsets the state of the production, besides causing injury, prejudice and useless expenses to commerce and finally creates a hostile economical spirit between entities whose paramount agreement and well understood interest bring them, on the contrary, closer together so as not to prejudice themselves reciprocally and to make every effort for the prosperity and enlargement of their mutual country.

»The program of the Conference remains, therefore, perfectly traced. A regimen, which every body rejects, must not to be forced to be made more tolerable. Nothing could be gained in mitigating some

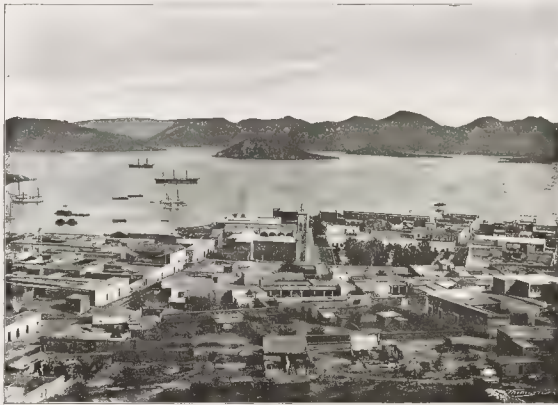
(1) An organization of a private character, composed of delegates from the whole Republic to defend the interests of industry and commerce, principally before the federal Government but which had only an ephemeral existence, as everything still has, which is organized amongst us through private efforts, not knowing as yet how to arrange itself with perseverance, tenacity and abnegation.

(2) See the relative pamphlet, entitled: *Impuestos indirectos. Proyecto presentado á la Conferencia de representantes por las tres Comisiones unidas, sobre supresión de las alcabalas y unificación de impuestos indirectos que afectan al comercio.* Mexico. Government printing-office, 1891.

of the court in favour of the plaintiffs, till at last it was comprehended that the situation was indefensible and twice recourse was taken to legal measures to reform the primitive article 124 of the Constitution, postponing the abolition of the excises and inland custom-houses of the Republic, once for the 1<sup>st</sup> of December 1884 and afterwards for the same date of 1886.

In the meantime, Jesus Fuentes y Muniz, whose liberal ideas and good intentions for the benefit of the public welfare are befitting to leave committed, so that history may pardon him his weakness of character, took up favourably the initiative of the Governor of Veracruz, Apolinar Castillo, to convoke, as in fact it was convoked, a Conference of Representatives of the States, which assembled in the town of Mexico from the 1<sup>st</sup> of October to the 7<sup>th</sup> of December 1883 occupying themselves in studying the problems relating to article 124 of the Constitution.

Singularly suggestive is the description made by the ponent Commission of that Conference, whose leader was Emanuel Dublan, and we greatly deplore, that for want of room, we are unable to put it before our readers, if it were only in its most culminating passages. In spite of all, and that the pressure to remedy that condition of affairs be closely examined, the ponent Commission finished in proposing, and which was approved by the Conference, passing over the opposition raised by William Prieto, Joseph Maria Mata and other delegates, a plan which the reform of the constitutional article substantially contains, and which ultimately, Mr. Dublan being already Minister of Finance, was decreed on the 22<sup>nd</sup> of November 1886 in the following terms (1):



Port of Guaymas

«The States cannot impose any duty by the simple transit of goods in inland circulation. Only the Government of the Union can decree transit duties, but only in respect to foreign effects, passing over the country by international and interoceanic communications without being on national territory for more time than necessary for the transit and departure for abroad.

»They shall not prohibit the direct nor indirect entry in their territory nor the leaving of any goods, if not for motives of the police, nor burden the articles of national production on leaving for abroad or for an other State.

»The exemptions from duties conceded shall be general and cannot be decreed in favour of those products of specific origin.

»The quota of the impost for specific goods shall be alike, whatever its origin may be, without being able to assign it a greater burden than that which similar proceeds attain of the political entity in which the impost is decreed.

»National goods shall not be submitted to specific itinerary neither shall they be inspected nor examined on the way, nor exact any fiscal documents for its inland circulation.

(1) The documents relative to this Conference were printed in a special edition, by the Government printing-office in 1884.



VOLUME SECOND

Commerce and national wealth

**Mexico. — Mercantile Centre**

PRIVATE BUILDING CONSTRUCTED FOR MERCANTILE AND INDUSTRIAL ESTABLISHMENTS  
AND FINANCIAL OFFICES







time afterwards Mr. Dublan died and the question was suspended till Mr. Limantour, being already Minister of Finance, resolved it in initiating in 1895 the reform of the articles 111 and 124 of the Constitution in these terms:

«Article 111. The States cannot:

III. »Coin money, issue paper money, stamps nor stamped paper.

IV. »Burden the transit of persons or things going through their territory.

V. »Prohibit nor burden, direct nor indirectly, the coming in nor the going out of their territory of any national or foreign merchandise.

VI. »Burden the circulation nor the consumption of national or foreign effects with imposts or duties, whose exaction is made by local custom-houses, that requires inspection or examination of the bulks or exact documents which may accompany the merchandise.

VII. »Dispatch nor maintain in force fiscal laws or dispositions amounting to differences of imposts or requisites, for reason of the origin of national or foreign goods, be it that this difference is established in regard to the similar production of the locality or be it between similar productions of distinct origin.

»Article 124. It is special a privilege of the Federation to burden the goods imported or exported, or that pass as transit through the national territory, as well as to regulate at all times and even to prohibit, for reasons of security or that of police-supervision, the circulation in the interior of the Republic of all kinds of effects, wherever they may come from; but without having the same Federation the power of establishing nor dictating in the District and Federal Territories the imposts or laws expressed by the fractions VI and VII of article 111.»

There were no State Governors wanting, though without much ostentation but certainly with tenacity, who opposed the reform initiated; nor were there people left who did not predict disorders even of a political nature, but the energy of the Federal Executive exalted himself above all, and on the 1<sup>st</sup> of July 1896 the inland custom-houses came to the ground, giving, since then, fresh life to commerce and industry, for not only ceased the traditional oppression to which they had been exposed, but they have also had a uniform basis of contribution without which no progress is possible.

As it was natural, the Federation and the States have taken recourse to other imposts so as to fill up the hollow caused by those suppressed, but the very circumstance that this feat was accomplished without confusion nor calamities, which by turns is an irrefutable testimony of our economical progress, for if public wealth had not increased, there would not have been any chargeable matter, proves that mistrust, routine and fear are not always the best advisers of public men.

In finishing this subject, we beg to point out: that if our political unity was constituted at the restoration of the Republic in 1867, our economical unity was an accomplished fact on the 1<sup>st</sup> of July 1896 in remaining well and perpetually established through the breaking down of the barriers raised by ourselves, that our interests are all alike from the United States to Guatemala and from the Atlantic to the Pacific Ocean.

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The tranquillity which we have been enjoying since 1877 as if of a supreme and inestimable goodness; the rapidity with which the 15,441 kilometers of rail-roads have been constructed from 1881 to 1900 and the 31,346 of telegraphs with which the Nation is endowed since the beginning of the century; the abundance of foreign capital that its construction and other new enterprises of all kinds have brought in our markets; the increase of population in the Republic, in spite of the tremendous obstacle found in the high mortality drawn from our lower classes, on account of the drunkenness and of its irrational and miserable way of living; the meridian reached by our mining industry, thanks to the introduction of powerful machinery, new methods of working and a considerable amount of capital; the creation of all sorts of industries, formerly not even imagined as being realizable here, all this has not only been favored and facilitated but made possible by locomotion; no doubt the progress of foreign industry, improving and cheapening its products, have been the principal favorable factors in the mercantile evolu-

of its asperities, submitting to all the States only one measure, if these reforms, forcibly very limited in its importance, have to be attained by means of serious confusions in the Exchequer of the States and offending their perhaps exaggerated but true sentiments of independence and pride. To make an effort in making the requisites and the quotas of the excise imposts uniform, procuring at the proper time, as the ministerial circular indicates, to classify the latter ones with the import duties on foreign goods, is a problem nothing less than insolvable, particularly since some States have abolished the mentioned imposts; and whatever attempt may be made in this sense, will have, amongst other many disadvantages, that of stirring up greater discontent on its application and more serious prejudices than the immediate adoption of the radical system of the free circulation of national and foreign effects throughout the territory of the Republic.

»If the financial system of the greater part of the federative entities has to be taken in hand, let it be done once for all and well. There are circumstances in which a transitory legislation does more harm than good; this happens when the capacity of the provisional measures taken is ignored, and when on the other side, the consequences of the radical reform, which they try to implant, are known in its whole extent. It is precisely in this case that the fiscal legislation in the matter of excises finds itself. No one would be able to assert what the effects of the unification of the quota in every part of the national territory will be, nor to presume to know the influence that this unification would have to act on the price of the goods, so different according to its place, finally, nor could any one have any approximate idea of the deficiencies to the treasury of the States which such a unification would produce; whilst in finding out only the total amount of the imposts which are collected at the inland custom-houses of the States, which uphold them, one obtains with sufficient accuracy the only truth necessary in order to know the intensity of the confusion which the complete abolition of the said imposts would cause.

»The country finds itself to-day in better conditions than ever to force the reform, which it has so many times since 1857 uselessly intended to do. Article 124 of the Constitution, which prescribed the abolition of the excises on a certain date, but which has been deferred from time to time, has not been able to be carried out, amongst other things on account of the continuous political and financial crisis which shook the nation up to a few years ago. The want of resources in which the Federation and the States found themselves, did not permit to launch in the adventurous change of a fiscal system without due preparation. New imposts could not very well be applied, abolishing those that brought in most, when all those existing were not sufficient to cover the most prodigious necessities.

An other course was intended to be followed in 1886. The excise imposts could not be extirpated with a simple prohibition; they appeared under an other name but in the same form and the characteristic inconveniences. As the authors of the reform of article 124 understood the impossibility, in which many of the States found themselves, to conform themselves to the spirit of the national precept, they raised the prohibition in the general terms in which it was compiled and procured to regulate the said imposts, making some of the shackles and restrictions disappear in favour of commerce; but these measures, with an appearance of conciliation, could not satisfy anyone, for they made the collecting impracticable and put the States in the alternative, either to radically change the financial system or to avoid the new law. The principal defect of this reform is the want of confidence: it tolerates the excises, making them at the same time impossible. It is certain that some of the States abolished such imposts afterwards but this move forward is not due to the said reform but to the consolidation of peace and public order in all the branches of Administration and to the consequent increase of the fiscal resources (1).»

This Conference did not deliberate with due regularity for reasons immaterial to refer to; a short

(1) See the pamphlet entitled: *Breves apuntes para un proyecto de abolición de las aduanas interiores de la República por el Lic. D. José Yves Limantour, representante del Distrito Federal en la Conferencia inaugurada el 5 de Febrero del presente año.* March, 1891. Printing-office of J. F. Jens, 1891.



In fact, how can we ask an importer, who a quarter of a century ago bought with one of our pesos goods for the value of five francs, to sell us cheaper to-day than at that time, when with this same peso he does not get more than two francs and a quarter and even less? The cost-price abroad may be less, the necessity of keeping a large stock may have ceased through the facility of giving and receiving orders, the freight may be cheaper, credit easier, the interest lower, public security, the tariff a little more human and rational, though not lower, because Government has to make the service of the National Debt in gold, which more or less absorbs 40 per 100 of the Mexican Expenditures (an other cause of the fall in silver); but in front and against all this is the enormous loss in the representative value of our money. And then, not even the rate of the exchanges is moderately fixed or subject to a rational forecast, but the abrupt oscillations which it undergoes, converts the trade of importation into gambling. Is it not strange, then, that he who practices it, procures to himself, with a high price, an ample margin for such risks?

They may answer us in saying, that considerable fortunes are still made in trade, proved by the true rarity of failures in the Republic. Apart from that, this fact may have a satisfactory explanation, be it through the benevolence of the creditors, to which we have referred to, be it through good faith, honesty, confidence and foresight which characterizes the commerce of Mexico, said to its honour, and which have been its fundamental lines since the colonial time, defending it against the speculative fever by which other Nations were invaded, we may remark, that the importers without large capital have been obliged to retire from the field of operation and that mercantile fortunes are no more made so rapid and easily as before, which proves, that the merchant has ceded a part of his profits to the consumer which he formerly kept for himself.

It is true, that under the shelter of the premium, which some of our tropical products reach, when we succeed in selling them to foreign markets, paying us in gold, our agricultural production has increased in considerable proportion; but besides that these very articles, when for home consumption, we pay naturally much dearer than before, the silver mines, our principal industry, have seen the price of their produce fall, and in being obliged to constantly augment it in order to find in the abundance a compensation for the price, daily more depressed, contributes in no small degree to depress it still more, and who knows, that in arriving by these means at an abyss which would only definitely separate itself from our road, if some of our public men would face once for all with wisdom, skill, the height of design and patriotism, of which they have already given eloquent proves, the formidable and very difficult problem of the change of our monetary standard, which now already keeps visibly back the national improvement; because if things are well examined, we are really in want of a coin from the moment that the one we are using is subject to the sudden fluctuations in the international silver market, over which we have no control whatever, and for this very reason it has lost its function of being the standard or type of other values.

We should go too far if we were to continue examining this question; but in putting a stop to it here, and as from what has been said it will be sufficient for the discreet reader to form an opinion from a purely mercantile point of view, we will limit ourselves in stating, that the current of public opinion, which formerly only saw a benefit in the depreciation of silver, commences now to moderate itself and to alter its course before the silent but suggestive eloquence of facts every day more numerous and perspicuous, which fundamentally change themselves in the endearment of the subsistences from day to day more alarming, reaching already those of our hapless working class and menacing it to return to its old misery and bareness, for though the wages are nominally more than before, what they earn is in reality hardly enough to keep them from dying of hunger.

And in passing on to point out the favorable aspects of our mercantile evolution, we may say, that although the higher grade of commerce is not yet in the hands of our own people, they commence interesting themselves much more in mercantile affairs than before, for not only has the prejudice against

tion, which also found in the financial institutions, which we shall study henceforth separately, an impulse of considerable importance.

Nevertheless, if the facts are studied closer and the prices of merchandise of general use are compared within a period of the last twenty or twenty five years, singular phenomena will present themselves, and as a prevailing result, if certain effects have gone down, the majority have preserved their old level or gone up in price. In the first place it is observed in the current cotton manufacture, beer, tobacco and others of national production, probably due to the great competition amongst the manufacturers themselves, because the activity of our enterprising men has varied very little, the majority dedicating itself in exploring only branches already known.

The high price, which almost all the foreign and some of the national effects still reach, is in our opinion due to the fact, which, though it may be contrary to opinions very generally professed, we cannot qualify but being fatally adverse in every sense and capable by itself to counteract the favorable influence of all others, how numerous they may be. We refer to the rise in the foreign exchange which the depreciation of silver has produced, and as a consequence of our money in relation to gold which forms the monetary standard of the Nations with whom we trade.

The full study of such an important and difficult question with its manifold aspects, does not correspond to this place; but note, that in the space of twenty five years, our money lost more than half of its representative value; it is therefore not astonishing, that the effects,



Monterrey. — Building of the Commercial Exchange • La Reinera  
of Hernández Brothers, Successors

which we have to pay in gold, have not gone down but rather up in price. No doubt this result is influenced by the defective system of selling a great part of their goods on long credit, which hardly commences to be relinquished by our wholesale trade, and the no less deplorable custom (which undoubtedly has its origin from the old system of conveying bullion, impeding all regularity in the payments from place to place) of not attending scrupulously and promptly to the day of maturity of payment, which, so as not to lose their customers, the sellers prolong willingly and even with laxity, preventing therefore, that the enormous amount of commercial paper is sent to the Banks for discount, as it is done all over the world, instead of which it remains paralyzed in their portfolios; the general increase of public wealth, which surely also contributes to the high prices, allows many social classes, unfortunately with the exception of the lowest, whose wages have not increased in proportion they ought to have done, to enjoy the commodities and even a certain amount of pernicious extravagance which was formerly unknown to them; as if to maintain the dearness and for the reasons expressed, comes in the tendency, which we still observe towards the coalitions and agreements to produce artificially and through the monopoly the scarcity of certain articles, above all those of national origin, because the economical freedom and competition have not as yet finished to purify our mercantile atmosphere, just as sunlight and pure air does not kill microbes in a short time, which in the obscurity and the foul atmosphere of a cave, found propitious means of existence; but overruling the importance of these motives, though all coexist, it seems to us unquestionable, that the depreciation of our money is the principal cause of the general rise in prices of which we still suffer.

We are not bound to any Nation by reciprocal commercial treaties. At the beginning of 1883, Mathias Romero signed a treaty with General Ulises S. Grant between Mexico and the United States, according to which we would have to give entrance, free of duty, to forty five classes of articles of American manufacture, the most part of which were at that time free, and against which the United States would admit with the same exemption thirty articles of ours, nearly all of agricultural production. Though the Senate of both Nations approved that treaty, which probably would have been beneficial to us, judging by the perseverance it was defended by Mr. Romero, the American Chamber, following its traditional protective policy, refused to sanction certain laws that the execution of that international pact required. It is since then that our Government deliberately abstained from entering in the path of reciprocal treaties, bristled with dangers at the bottom, for in the peculiar conditions of our production, still rather backward, it is difficult to find a compensation adequately to the concessions which the Nations, with whom we should contract, would have to ask us for.

It is now time that we say a few words on the dimensions of our home and foreign trade.

As soon as the Republic was restored, Mr. Iglesias as well as Mr. Romero exerted themselves with great ardor in forming fiscal statistics, instituting for this purpose, and since August 1867, in the Treasury Department a section specially dedicated to the concentration of the respective statements. As it was to be expected in the midst of the general disorganization, an undertaking of this nature stumbled against many obstacles, which the political circumstances of confusion and revolution opposed, and which the country had to suffer to a relatively recent date. It is therefore not to be wondered at, that the persevering efforts of Mr. Romero have not given any results till 1873, when the first statistics of our imports and exports were published, nor that in subsequent years of political convulsions or of empiric or little careful financial Administration, the formation and publication of statistic data were neglected in a lamentable manner, without which all calculations and forecasts are impossible to make. Thus, with regard to imports, we are destitute of all information concerning the nine fiscal years from the 1<sup>st</sup> of July 1875 to the 30<sup>th</sup> of June 1184, those of 1886 to 1888 and those of relatively recent years from 1890 to 1892. We have been more fortunate in the matter of exports, for with the exception of the fiscal years from 1875 to 1877, we have the complete figures since 1872 till 1892. However the manner in which these data have been collected and published is not adapted to inspire confidence, neither does it lend itself easily to deductions moderately acceptable; and so as to avoid entering in tedious details, we only mention, that the imports are calculated according to its invoice value in gold, while the exports in that of silver, and still without taking into account the commercial value of the gold exported but only the legal one in relation to the silver money (1).

(1) Under the simple pretext of curiosity, we insert here the official figures published and referring to the period.

Fiscal years	IMPORTS	EXPORTS		
	Value of invoice in gold	Previous in the value in silver	Other articles	Total value declared in silver
1872-73	\$ 20,166 012	\$ 25,224,502	\$ 6,369,503	\$ 31,594,005
1873-74	» 23,282,298	» 27,038,527	» 6,630,176	» 33,668,703
1874-75	» 18,793,493	» 20,241,090	» 7,077,098	» 27,318,188
1875-76				
1876-77				
1877-78		» 22,584,599	» 6,701,061	» 29,285,660
1878-79		» 21,484,617	» 8,406,860	» 29,891,477
1879-80		» 22,030,334	» 10,627,220	» 32,657,554
1880-81		» 18,234,003	» 10,674,694	» 28,908,697
1881-82		» 17,063,767	» 12,019,526	» 29,083,293
1882-83		» 20,628,657	» 12,178,937	» 32,807,594
1883-84		» 33,473,283	» 13,252,213	» 46,725,496
1884-85		» 35,711,050	» 12,896,792	» 48,607,842
1885-86	» 23,786,684	» 20,406,400	» 13,741,316	» 34,147,717
1886-87	» 21,171,795	» 33,560,502	» 15,631,427	» 49,191,929
1887-88		» 31,006,187	» 17,699,720	» 48,705,907
1888-89	» 40,024,894	» 38,785,274	» 21,313,116	» 60,158,423
1889-90	» 52,018,658	» 38,621,290	» 23,873,098	» 62,494,388
1890-91		» 36,256,372	» 27,020,023	» 63,276,395
1891-92		» 40,137,393	» 26,330,410	» 66,467,803



foreigners diminished, but it may be said, that in the largely populated centers it has completely ceased, due to the benevolent Mexican character.

Our mercantile legislation has also considerably improved. We have reformed our political Constitution in the sense of vesting the legislative federal power with the faculty of issuing the Commercial Code, in general observance throughout the Republic, instead of limiting its competency to the sanction of general bases of the mercantile legislation, as it was done in the original text of 1857. This sanctioned the promulgation of the first Commercial Code on the 20<sup>th</sup> of April 1884; but as it resulted in some defects of consideration, although a work over which a Commission of eminent lawyers was occupied during many years, it was derogated on the 15<sup>th</sup> of September 1889 and substituted by one, which is equal to those of other civilized Nations, not putting any obstacles but rather favored the development of business, prudently establishing and regulating private Companies and endowing us with generally clear rules and precepts in accordance to our epoch.

The mercantile law, consistent with a constitutional precept, prohibiting the special tribunals, is administered by ordinary judges; but subject to rules which denote a certain tendency to emancipate itself from empty formulas and complicated procedures, though not exempt from some vicious habits of the old Spanish legislation.

Our Commercial Code has been perfected with certain special laws on matters on which the former did not treat, and as of particular importance, we shall quote the one regulating and referring to the general depot-warehouses and the one authorizing private Companies and public work enterprises, to issue Obligations and mortgage Bonds to order or to bearer, securities which were formerly not authorized by our laws but which so much contribute to the movement of capitals.

As we shall see hereafter, the financial Institutions are also governed by special laws.

The School of Commerce and Administration, founded, as will be remembered, in 1845 with the funds and at the initiative of the old mercantile tribunal, has been kept, since the year 1867, at the expense of the federal Exchequer, and since then, has acquired considerable development. In the Expenditures of the Budget of the last years, a sum of about \$ 40,000 is assigned to defray its expenses; and although the plan adopted in the studies there, is evidently susceptible to many improvements, the teaching imparted has contributed in diffusing economical experiences, of which our younger generation and even our public men stand in need of. Besides this, there exist professorships of political Economy in some professional schools, as in those of Law and Engineering in the Districts and others of the States, which also constitute an important factor of illustration and progress in our economical evolution.

Our mercantile organization, in spite of the considerable growth of operations reached, is still rather primitive and deficient. Although the principal brokers of the town of Mexico have for years organized a mercantile Exchange, the custom of making bargains has not been introduced; and though the brokers may meet every day, it is simply for the purpose of communicating to each other the rate at which they transacted exchange operations, purchases or sales outside the Exchange, publishing the prices in a special daily paper. We are, therefore, lacking of an Exchange in the sense of the word, as open transactions or those for a fixed term are unknown.

Neither have we as yet Chambers of Commerce that perform official duties or are invested with a public character, and recognized in other countries as representatives of the mercantile community. There exists in Mexico, since 1877, a Chamber of Commerce in quality of a private corporation, whose duties consisted principally in making remonstrances before the authorities at the time when the custom-house tariffs and other taxes seriously injured the commercial interests.



laws, in the immigration on a large scale, and in one word, in our economic progress, the bases of which we are now beginning to lay; we have only wished to imprint on the mind a situation and explain in its real sense the excess of our exports over our imports, created principally through the sums we remit for the service of our Public Debt and for the payment of interest and dividends of enterprises organized with capital which is not Mexican.

The question put in this light, it is interesting to observe the movement that this excess has followed, passing over 40 per 100 in the five years from 1893-94 to 1897-98, but which in the following year fell to 38, in that after to 22, and finally in 1900-1901 did not reach 19 per 100. Will this uninterrupted fall have any satisfactory explanation in the development of the national production in certain branches, which, like the brewing of beer and other things, avoid us buying abroad specific effects? It is licit to believe it, at least for want of an other satisfactory explanation, although the current of foreign capital, though it has not been interrupted, has neither marked itself considerably. At all events, though the time passed by is not sufficient to form a rational forecast, the phenomenon is worth while the attention and for this reason we were obliged not to let it pass in silence (1).

Two words to finish this part of our study. We have already mentioned the reason why we could not take the statistics previous to 1892 in serious consideration; nevertheless, let us be allowed to look back towards the fiscal year of 1872-73, in which the total of our transactions with other Nations did not arrive at \$ 52,000,000. The difference between this figure, however erroneous it may be from whatever point of view, and that of \$ 291,000,000 which we reached in the last fiscal year of the XIX century, shows an increase in such a considerable manner of our foreign trade, that it may suffice to form an opinion of the rapidity with which our economical progress is accomplished and so as to inspire a certain confidence in the future.

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Our shipping statistics have also been very incomplete and not very exact, and those we have, worthy to be relied upon, only commence with the fiscal year 1898-99. In this year and in the two following, the movement in international navigation, either coming in a direct way or by calling at other ports, has been the following:

FISCAL YEARS	ENTERED			LEFT		
	N. <sup>o</sup> of ships	TONS		N. <sup>o</sup> of ships	TONS	
		net register	goods of 1000 kilograms		net register	goods of 1000 kilograms
1898 to 1899	2,371	3,626,499	908,574	2,092	3,165,069	371,093
1899 to 1900	2,465	4,308,808	1,076,676	2,213	3,537,611	412,985
1900 to 1901	2,501	4,612,112	1,220,280	2,174	3,911,031	376,009

Of the 2,501 ships that entered in 1900-1901, 1,795 were steamers and 706 sailing vessels; in the ports of the Gulf of Mexico entered 1,672 and in those of the Pacific 829; 117 hoisted the Mexican flag, 873 that of the United States, 715 the English, 394 the Norwegian, 14 the French and 180 that of other Nations.

(1) We write these lines on the 31<sup>st</sup> of July 1902 and for this reason, they have not been published as yet relating to the last fiscal year, which finished on 30<sup>th</sup> of June, but only figures subject to corrections. Nevertheless, the rectifications cannot be of importance and for this reason we can already say, that in 1901-1902, our foreign trade rose to \$ 315,660,000 in silver, of which \$ 147,618,000 correspond to imports and \$ 168,041,000 to exports, exceeding therefore these to the former by only \$ 20,423,000, which more or less represent 14 per 100 of the importation. Therefore the fall we have signalized continues, in the phenomenon of which the rise in the exchange influences as well, which since April has become very much pronounced, arriving at 240 per 100.

This branch, like all others of our financial Administration, has been considerably improved since the fiscal year 1892-1893 and daily tends to perfection and progress, for not only do we already possess complete, detailed and well depurated figures on our foreign trade, but also, that the various statistical publications of the Secretary of Finance, comprise many more branches of great importance, the study of which is here not in its place. These publications have made us possible to form and present to our readers the following table:

Amount of our foreign trade during the last nine years of the XIX century, valued in Mexican silver pesos

FISCAL YEARS	IMPORTS		EXPORTS			EXCESS IN THE EXPORTS OVER THE IMPORTS	TOTAL OF FOREIGN TRADE
	VALUE OF INVOICE		VALUE DECLARED				
	in gold (1).	in silver (2)	precious metals (3).	other articles	TOTAL		
	Pesos	Pesos	Pesos.	Pesos.	Pesos.	Pesos	Pesos
1892 to 1893. . .	43,413,131	66,042,622	57,037,831	31,004,902	88,042,733	22,000,111	154,085,355
1893 to 1894. . .	30,287,489	56,182,942	47,237,023	32,858,027	80,095,050	23,913,008	130,278,892
1894 to 1895. . .	34,000,440	66,201,735	56,814,012	38,319,009	95,133,111	28,931,376	161,334,846
1895 to 1896. . .	42,253,038	78,785,878	60,696,071	40,178,366	110,114,377	31,328,409	188,900,255
1896 to 1897. . .	42,204,095	83,248,862	72,620,695	45,163,397	117,784,092	34,535,230	201,032,054
1897 to 1898. . .	43,603,492	97,273,290	84,138,087	53,930,417	138,068,504	40,795,214	235,341,794
1898 to 1899. . .	50,869,194	107,610,441	86,171,354	62,282,480	148,453,834	40,834,393	256,073,275
1899 to 1900. . .	61,318,175	128,796,606	79,216,597	79,031,336	158,247,933	20,451,327	287,044,539
1900 to 1901. . .	65,083,453	133,020,169	90,726,805	67,282,682	158,009,487	24,989,318	291,020,656
Totals. . .	413,033,407	817,171,545	643,898,475	450,051,546	1,093,950,021	276,778,476	1,911,121,566

(1) According to the country it comes from, at the rate of 5 £ a pound sterling, 5 francs a peso, etc.

(2) According to the monthly average price of the Mexican peso in New-York.

(3) The value of gold taken according to the monthly average price of the Mexican peso in New-York.

As it will be seen by the preceding figures, and excepting from our valuations the fiscal year 1892-93, in which, through a very bad harvest of cereals in the whole of the Republic, we had to import them in large quantities from the United States, our imports and exports have doubled during the short period of eight year, which we are examining, following an upward and uninterrupted movement; our export in precious metals, namely: gold, silver, lead and others, and of which the principal one remains to be the silver, represents the three fifths part of the total, speaking in general terms; lastly, there is always a considerable excess in our exports over the imports, about which we are forced to say a few words, because unfortunately it does not represent a balance in our favour and to the debit of the foreigner, as it does to other Nations, whose exports are also in excess to their imports, but it is a real annual tribute which we pay and which, unfortunately, often reaches formidable proportions.

In fact, the want of capitals, which our short life as a nation, the unprovided for foundation of our character and many other causes, have not permitted us as yet to form, has exacted, that the foreign markets provide us with the sums represented by our exterior as well as interior National Debt, the securities of which principally circulate in London, Berlin and Amsterdam, being scarce here, where money reaches higher rates in private business transactions than those paid by our treasury. On the other hand, nearly all our rail-roads have been built with money raised in London and the United States, and we see daily foreigners laying the basis to business concerns and enterprises of all kinds, or they pass into their hands, which we, nearly always for want of cash capital, have not been able to approach or to develop on a proper scale. With the exception of some branches of national production, especially the henequen (American Aloe) of Yucatan, the cotton of Durango and Coahuila, the sugar of Morelos, Jalisco, Michoacan and Veracruz, breeding of cattle in Chihuahua and other States, and cotton and woolen texture, there is hardly a line of activity, inclusive agriculture, which has not been aborbed here by foreign capital. This is the common fate to all new Nations and we shall not have to infuse into our minds a criterion of close patriotism in order to condemn the fact we name as an evil, which in time will have its corrective in the increase of the national public wealth, in the encouragement of an enterprising spirit, which scarcely commences to exist, in the diffusion of a culture which still is the privilege of a few, in the relinquishing of old methods and vicious ideas, in the enacting of just and wisely protective



VOLUME SECOND

—O—

Commerce and national wealth

NOTEWORTHY ESTABLISHMENTS

**Mexico.—R. Boker & Co.'s hardware store**







Under the appearance of the countries of destination, our exports are classified, always during the last five years, in the following form:

COUNTRIES OF DESTINATION	DECLARED VALUE									
	FISCAL YEARS									
	1896 to 1897		1897 to 1898		1898 to 1899		1899 to 1900		1900 to 1901	
	Pesos	Cs.	Pesos	Cs.	Pesos	Cs.	Pesos	Cs.	Pesos	Cs.
Europe (1) . . . . .	23,261,182	00	30,902,755	00	28,712,138	00	27,473,657	00	25,731,057	21
Asia . . . . .	7,056	00	4,312	00	—	—	4,260	00	—	—
Africa . . . . .	—	—	906	00	—	—	—	—	—	—
North America (2) . . . . .	86,742,958	00	94,976,786	00	103,553,480	00	116,110,602	00	117,229,711	15
Central America . . . . .	1,243,200	00	873,352	00	743,754	00	524,235	00	504,001	70
South America (3) . . . . .	37,385	00	11,374	00	77,755	00	57,927	00	47,626	05
West-Indies (4) . . . . .	53,503	00	2,203,264	00	5,391,004	00	5,885,679	00	5,146,515	00
Oceania . . . . .	1,200	00	—	—	—	—	—	—	—	—
Total amounts (5) . . . . .	111,346,494	00	128,972,749	00	138,478,137	00	150,056,360	00	148,659,001	71

(1) Principally and in order of importance, England, Germany, France, Spain and Belgium.

(2) Almost exclusively the United States.

(3) Principally Columbia.

(4) Almost exclusively Cuba.

(5) To these figures, those corresponding to the premium on gold has to be added, which already are assigned in the preceding note.

In order to give a more exact idea of the countries we trade with, and so as not to tire the reader with more figures, we will only lay before him the summary of our international traffic during the year 1900-901, in a somewhat detailed form, as follows:

COUNTRIES	IMPORTATION in gold		EXPORTATION in silver without the premium on gold		COUNTRIES	IMPORTATION in gold		EXPORTATION in silver without the premium on gold	
	Pesos	Cs.	Pesos	Cs.		Pesos	Cs.	Pesos	Cs.
EUROPE					NORTH AMERICA				
Germany . . . . .	7,079,953	15	5,018,464	02	Canada . . . . .	11,444	50	—	720
Austria-Hungary . . . . .	419,901	32	29,214	00	United States . . . . .	35,189,953	85	117,228,901	15
Belgium . . . . .	758,706	56	4,422,728	41		35,201,400	35	117,229,711	15
Denmark . . . . .	9,754	41	—	—	CENTRAL AMERICA				
Spain . . . . .	2,856,774	05	1,187,713	67	Costa-Rica . . . . .	80	00	626	00
France . . . . .	6,564,235	05	2,824,303	13	Guatemala . . . . .	55,404	40	356,388	60
Great Britain . . . . .	9,924,553	34	12,033,079	81	Honduras . . . . .	—	—	093	00
Greece . . . . .	1,824	00	—	—	British Honduras . . . . .	5,096	26	100,055	00
Holland . . . . .	279,278	23	157,054	95	Salvador . . . . .	9,404	00	2,059	10
Italy . . . . .	530,203	15	2,449	00		70,044	75	504,001	70
Norway . . . . .	102,805	22	—	—	SOUTH AMERICA				
Portugal . . . . .	55,676	40	—	—	Bolivia . . . . .	261	00	175	00
Russia . . . . .	1,626	20	56,053	22	Brazil . . . . .	6,392	20	—	—
Sweden . . . . .	31,636	06	—	—	Columbia . . . . .	30,915	80	41,107	00
Switzerland . . . . .	333,943	52	—	—	Chili . . . . .	6,597	00	3,255	00
	28,956,971	80	25,731,057	21	Equator . . . . .	67,905	02	—	—
ASIA					Paraguay . . . . .	52	00	—	—
Arabia . . . . .	730	00	—	—	Peru . . . . .	2,400	00	2,908	75
China . . . . .	111,284	91	—	—	Argentine Republic . . . . .	447	00	—	—
Indo-China . . . . .	1,403	00	—	—	Uruguay . . . . .	656	00	—	—
Hindustan . . . . .	356,777	87	—	—	Venezuela . . . . .	24,371	25	—	—
Japan . . . . .	54,416	83	—	—		140,212	27	47,626	05
Persia . . . . .	1,061	00	—	—	WEST-INDIES				
Turkey . . . . .	18,827	08	—	—	Cuba . . . . .	55,649	00	5,146,515	00
	545,410	29	—	—	Granada . . . . .	403	00	—	—
AFRICA					Jamaica . . . . .	1,686	00	—	—
Algiers . . . . .	8,570	25	—	—	Porto-Rico . . . . .	23	00	—	—
Cape Colony . . . . .	1,130	00	—	—	Santo Domingo . . . . .	58,009	00	5,146,515	00
Congo . . . . .	275	00	—	—	OCEANIA				
Egypt . . . . .	12,433	00	—	—	Australia . . . . .	81,817	24	—	—
Morocco . . . . .	64	00	—	—	Java . . . . .	1,226	88	—	—
Senegal . . . . .	813	00	—	—	Sumatra . . . . .	1,422	00	—	—
Tunis . . . . .	905	00	—	—		84,466	12	—	—
Zanzibar . . . . .	2,748	37	—	—					
	26,938	02	—	—					

In conclusion of this chapter, which under the pen has grown beyond all measure, let us say a few words on our home trade.

The stamp-tax burdens all sales made in the wholesale or retail trade with an impost of half per cent, estimating as wholesale sales to be those exceeding 20 pesos and those by retail which do not reach that sum. On the former, the seller is obliged to make out an invoice to which the «estampillas» (stamps)

Our international movement by rail-road, presented in these same years the following figures:

FISCAL YEARS	ENTERED		LEFT	
	Number of wagons	Tonnage of goods	Number of wagons	Tonnage of goods
1898 to 1899	32,305	467,839	15,506	288,412
1899 to 1900	47,592	645,953	24,471	242,550
1900 to 1901	38,629	535,610	20,368	223,720

Arranged in chapters or sections of the Ordinance, our importation in 1900-901 was the following, value in gold:

CLASSIFICATION	VALUE OF INVOICE				CLASSIFICATION	VALUE OF INVOICE			
	Importation free of duties.	Importation subject to duties.	TOTAL IMPORTATION			Importation free of duties.	Importation subject to duties.	TOTAL IMPORTATION	
	Pesos	Cs.	Pesos	Cs.		Pesos	Cs.	Pesos	Cs.
Animal materials. . . . .	73,033 26	4,786,786 75	4,860,719 95		Paper and its applica-	304,846 13	1,910,773 61	2,215,620 07	
Vegetable materials . . . .	2,184,331 23	8,000,911 45	10,185,243 18		tions . . . . .	406,902 33	9,124,751 61	9,531,653 14	
Mineral materials . . . . .	8,971,482 11	10,059,808 80	19,031,290 91		Machinery and appara-	846,684 84	600,053 01	1,446,737 85	
Textures and its manu-	5,176 00	9,207,330 76	9,212,506 76		tus . . . . .	—	—	1,512,707 64	
factures . . . . .	—	—	—		Vehicles . . . . .	1,770 43	1,710,902 33	1,712,672 58	
Chemical and pharma-	—	2,585,320 34	2,585,320 34		Firearms and explosives	—	—	—	
ceutical products . . . . .	—	—	—		Various . . . . .	—	—	—	
Spirituous, fomented	—	2,788,920 07	2,788,920 07		Total importation.	12,795,126 09	52,288,327 20	65,083,453 29	
and natural drinks . . . .	—	—	—						

In the last space of five years of the XIX century and under the appearance of duty-free and dutiable goods, our importation is arranged in the following manner:

PERIODS	DUTY-FREE IMPORTS				DUTIABLE IMPORTS				TOTAL IMPORTS			
	VALUE OF INVOICE		VALUE OF INVOICE		VALUE OF INVOICE		VALUE OF INVOICE		VALUE OF INVOICE		VALUE OF INVOICE	
	In gold	In silver	In gold	In silver	In gold	In silver	In gold	In silver	In gold	In silver	In gold	In silver
FISCAL YEARS	Pesos	Cs.	Pesos	Cs.	Pesos	Cs.	Pesos	Cs.	Pesos	Cs.	Pesos	Cs.
1896 to 1897 . . . . .	5,037,388 00	9,045,526 00	37,166,807 00	73,303,336 00	42,204,095 00	83,248,862 00						
1897 to 1898 . . . . .	7,655,749 00	17,068,341 00	35,957,750 00	80,204,946 00	43,603,492 00	97,273,260 00						
1898 to 1899 . . . . .	7,637,766 00	16,132,186 00	43,211,428 00	49,487,246 00	50,869,134 00	107,619,441 00						
1899 to 1900 . . . . .	6,503,827 00	19,958,500 00	51,811,348 00	108,838,016 00	61,318,175 00	128,796,566 00						
1900 to 1901 . . . . .	12,795,126 09	26,227,510 31	52,288,327 20	106,792,650 00	65,083,453 29	133,020,169 19						

Finally, according to their origin, our imports are abridged thus, value in gold:

PLACE OF ORIGIN	VALUE OF INVOICE							
	1896 to 1897		1897 to 1898		1898 to 1899		1899 to 1900	
	Pesos	Cs.	Pesos	Cs.	Pesos	Cs.	Pesos	Cs.
Europe (1). . . . .	19,076,326 00	21,660,967 00	25,874,611 00	20,228,676 00	28,956,971 00			
Asia. . . . .	290,208 00	223,749 00	493,576 00	636,150 00	545,410 29			
Africa. . . . .	13,431 00	27,022 00	23,392 00	20,883 00	20,938 62			
North America (2). . . . .	22,597,216 00	21,492,595 00	24,176,302 00	31,050,715 00	35,201,490 35			
Central America. . . . .	46,778 00	18,598 00	27,004 00	37,475 00	70,044 75			
South America. . . . .	153,869 00	144,752 00	213,287 00	243,353 00	140,212 27			
West Indies. . . . .	1,434 00	1,108 00	25,622 00	50,381 00	58,009 00			
Oceania. . . . .	24,833 00	33,744 00	35,440 00	41,542 00	84,466 12			
Total amounts. . . . .	42,204,095 00	43,603,492 00	50,869,194 00	61,318,175 00	65,083,453 29			

- (1) Predominating in order of importance, England, Germany, which daily gains ground, France and Spain.  
(2) Almost exclusively the United States, since the importations from Canada are of very little importance.

With regard to our exportations, during the last five years they are classified thus:

CLASSIFICATION	DECLARED VALUE							
	1896 to 1897		1897 to 1898		1898 to 1899		1899 to 1900	
	Pesos	Cs.	Pesos	Cs.	Pesos	Cs.	Pesos	Cs.
Mineral products (1). . . . .	73,042,972 00	83,392,589 00	86,257,851 00	84,988,572 00	97,911,617 41			
Vegetable products . . . . .	28,751,398 00	34,743,399 00	40,371,661 00	50,939,474 00	30,140,110 23			
Animal products. . . . .	7,123,539 00	8,880,147 00	9,205,128 00	10,633,713 00	11,538,086 76			
Manufactured products . . . . .	1,800,700 00	1,909,761 00	2,615,768 00	2,813,687 00	2,395,108 00			
Various. . . . .	25,915 00	37,952 00	27,729 00	680,914 00	665,080 22			
Total amounts (2). . . . .	111,346,494 00	128,972,749 00	138,478,137 00	150,056,360 00	148,659,001 71			

- (1) To these figures has the premium on the exported gold to be added, which amounted these five years to: \$ 6,437,598, \$ 9,695,755, \$ 9,975,697, \$ 8,191,572 y \$ 9,350,483 respectively.  
(2) The preceding observation has to be born in mind.



And now that our patient reader has been so benevolent as to accompany us in our long and little entertaining peregrination across our National History during more than a third of a century, to extract from the facts, constituting the same, those that have had the most influence on our mercantile evolution, let us be allowed to look back asking ourselves, who are, amongst our public men, those that have mostly influenced through special acts in the development of our commerce.

Leaving the name of Mr. Limantour on one side, who still is in front of the financial Department and whose work is therefore impossible to judge, for it does not belong definitely to history but to the actual state of things, not one figure acquires prominence from which that of Mathias Romero is detached.

Without taking in account his untouchable private conduct and his spotless integrity, gifts, which not even his calumniators have dared to deny him; laying aside the merits and-services of his long di-



Port of Coatzacoalcos (From a photograph by Waite,

plomatic career, the least of which is certainly not his constant ardor to defend Mexico from the false and tainted appreciation of which it was the object, while abroad it was only judged by its revolutions, no one has had such elevated thoughts than he, nor preoccupy himself so deeply to lay the foundation of the fabric of national prosperity, if it has to adjust itself to the base of our economical prosperity. Liberal of infrangible convictions, all his laws and dispositions were founded on the extensive criterion of respect to improper rights and on the vehement desire to favor and develop our home and foreign Commerce, suppressing hinderances and to concert franchise.

That many times he omitted paying regularly the salaries to the public functionaries: from here dates the cause of his unpopularity, in the face of which fact, the great merits of Mr. Romero seem to have been unknown and even openly denied. The impartial history has to answer to this reproach, and already commences to do so, that many other Ministers of Finance have also omitted to pay the salaries, but with the difference, that almost all of them arrived at this point, when the provisions made on which they lived were exhausted, and when Mr. Romero, after having prepared the future with wise and fruitful measures, saw himself compelled to sacrifice the fortnightly payments to the functionaries in the face of superior necessities, which, in spite of their urgency and compulsion, were never able to decide him to make systematically provisions to which our Governments ordinarily took recourse to.

It is here that the fundamental magnanimous action characterizes Mr. Romero's work as regards to

have to be fixed so as to prove the payment of the impost, and as to the latter, the merchants have to declare annually their amount to the stamp-tax administration, and amounting to over \$ 60 per month, have to buy every two months the corresponding «estampillas,» affixing them on a special ticket. Various precautions have been taken by the law so as to avoid fraud; but it will be easy to understand, that the fiscal vigilance cannot be entirely effective without degenerating into inquisition, especially in small sales

It is nevertheless impossible to find out the amount of the sales ascending to or being over the sum of twenty pesos, for the stamps to be affixed to the invoices are not of a special class and for this reason, the only existing fact we have to form an opinion of the extent of the sales, is the one referring to those below twenty pesos, which are annually declared, though with sufficient and inevitable inaccuracy, as stated before. Taking it from this source, we give herewith a summary, according to the States, of the declared sales during the last space of five years of the century:

DECLARED SALES											
FISCAL YEARS											
1896 to 1897		1897 to 1898		1898 to 1899		1899 to 1900		1900 to 1901			
Person	Ca	Person	Ca	Person	Ca	Person	Ca	Person	Ca	Person	Ca
CENTRAL STATES											
Aguascalientes.....	881.151	10	988.051	48	1.097.261	25	1.239.104	57	1.269.480	40	
Distrito Federal.....	34.019.248	00	34.816.818	57	36.207.028	16	37.866.236	96	42.447.931	73	
Durango.....	3,636.044	38	4,373.275	90	4,352.531	75	4,770.058	10	4,997.157	06	
Guajuato.....	6,655.060	50	6,402.023	38	6,607.307	05	6,743.773	08	6,997.816	12	
Hidalgo.....	5,124.105	35	5,235.035	15	5,835.972	40	5,404.725	30	5,669.445	02	
Mexico.....	6,585.689	49	6,397.023	64	6,241.317	62	6,342.800	84	6,723.086	13	
Morelos.....	3,307.489	92	3,248.235	71	3,261.386	87	3,507.967	00	3,591.266	86	
Puebla.....	7,113.405	40	9,153.144	48	9,986.329	97	10,301.309	87	11,204.026	06	
Querétaro.....	1,890.547	65	1,876.907	69	2,213.283	08	2,344.470	21	2,409.102	82	
San Luis Potosí.....	3,867.201	14	3,800.814	45	4,439.405	94	5,332.663	95	6,005.184	79	
Tlaxcala.....	1,284.903	15	1,331.806	41	1,527.793	52	1,748.748	00	1,859.512	94	
Zacatecas.....	5,094.525	03	4,956.182	00	4,950.031	20	4,532.497	48	4,312.056	55	
	79,459,527	20	82,550,237	86	86,720,609	50	90,134,275	41	97,400,008	10	
NORTHERN STATES											
Coahuila.....	4,128.940	10	4,537.042	27	5,066.639	35	6,022.567	81	6,566.847	17	
Chihuahua.....	5,153.811	13	5,237.353	38	5,667.129	60	5,916.460	93	6,298.874	16	
Nuevo León.....	3,009.102	03	4,309.281	75	4,963.191	92	5,392.277	25	5,417.593	35	
Sonora.....	3,647.660	38	3,772.679	39	3,275.545	15	3,870.039	82	3,663.303	10	
	15,939,552	84	17,856,356	79	18,972,497	11	21,210,345	84	21,946,562	78	
GULF STATES											
Campeche.....	1,500.469	15	1,586.599	91	1,577.918	73	1,655.167	07	1,573.011	24	
Tabasco.....	1,743.800	58	1,726.469	55	1,701.198	15	1,627.014	60	1,807.546	86	
Tamaulipas.....	3,098.713	39	3,309.524	86	3,471.734	38	3,797.831	95	4,119.989	14	
Yucatan.....	4,867.872	00	4,490.265	31	4,894.162	00	5,646.101	77	6,083.054	29	
Veracruz.....	13,048.299	67	13,912.356	11	14,785.919	87	15,315.691	00	16,296.036	31	
	24,289,154	71	25,025,215	74	26,430,933	13	28,042,706	39	29,879,637	84	
PACIFIC STATES											
Territory of Lower California.....	1,782.782	00	2,016.106	78	2,139.867	70	2,237.725	19	2,324.187	00	
Colima.....	1,082.447	48	1,022.025	36	1,063.266	50	1,092.885	49	1,189.968	85	
Chiapas.....	1,897.475	01	1,738.841	87	2,135.685	47	2,224.824	01	2,101.708	86	
Guerrero.....	1,433.583	31	1,565.921	68	1,407.991	80	1,718.945	00	1,840.109	22	
Jalisco.....	4,250.207	75	5,215.189	24	6,499.399	22	7,168.136	00	7,662.680	10	
Michoacan.....	4,164.328	09	4,421.531	05	4,710.294	59	5,023.110	83	5,024.640	37	
Oaxaca.....	2,162.277	37	3,987.926	85	4,168.825	15	4,499.211	06	4,266.264	33	
Sinaloa.....	3,279.457	20	3,853.220	36	3,836.280	83	3,835.954	56	3,704.666	03	
Tejic (Territory).....	2,002.331	85	1,545.261	51	1,473.470	27	1,535.458	41	1,473.644	03	
	22,054,890	35	25,366,944	70	27,525,072	59	29,306,260	54	29,887,870	25	
Total amounts (1).....											
Central States.....	79,459,527	20	82,550,237	86	86,720,609	50	90,134,275	41	97,400,008	10	
Northern States.....	15,939,552	84	17,856,356	79	18,972,497	11	21,210,345	84	21,946,562	78	
Gulf States.....	24,289,154	70	25,025,215	74	26,430,933	13	28,042,706	39	29,879,637	84	
Pacific States.....	22,054,890	35	25,366,944	70	27,525,072	59	29,306,260	54	29,887,870	25	
	141,743,125	118	150,798,755	09	159,649,112	33	168,693,588	18	179,114,078	18	

(1) From these declared sales, those exempt from the stamp-tax only represent a little more than the 4 por 100 of the total.

We do not possess any other numerical data on the extent of our inland trade; but the preceding ones show the increase had in this matter, proved also by the fact, that the greater part of the States, when the Excises were abolished, substituted this impost by the ones on sales, the proceeds of which are considerable. Taking everything in account, as well as the opinion of well informed persons, our retail trade is not lower than \$ 350,000,000 a year, a figure which we do not think at all to be exaggerated.



VOLUME SECOND

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Commerce and national wealth

**Mercantile Bank at Monterrey**

(STATE OF NEW-LEON)







whom it was signed enjoyed credit; but as that firm was not long before it fell, victim of its speculations with the Governments, the matter did not extend itself nor did it have any real importance.

Our first Issue, Circulatory and Discount Bank started really in 1864 during the Empire of Maximilian, without special authorization but by virtue of a simple entry in the commercial register of its constitutive articles, it being the branch of an English Company of limited liability, styling itself: *London Bank of Mexico and South-America, Limited*. It was this branch Bank, always conducted and managed with great circumspection, ability and prudence, which familiarized us with the use of Bank Notes and which little by little were put in circulation, and although it had to pass through many a critical crisis,

as it was then malignantly said, propelling alarming rumors on the solidity of the Bank, the fact remained, that it always came out of it successfully and that the credit of the establishment increased, although its balances were never published in Mexico, neither was its cash in hand nor the notes in circulation known. Scarcely from year to year, and at the meeting of the shareholders in London, when some information of that what happened at the general meeting was published by the London financial papers, some echos of it arrived here, which to the most inquisitive and interested gave little light on the financial position of the *Banco de Londres* as it was generally called.

We repeat, that in spite of all, the skilful prudence with which the concern was managed, the effective services it began to render to commerce in general, its absolute abstinence from risky transactions and from those then called *Government*



Anthony de Mier y Celis  
President of the first Council of Administration of the Mexican National Bank

*affairs* and strict punctuality with which it always attended to its obligations, won it the appreciation and confidence of the public and the esteem of our Governments, who never created it any difficulties, neither had recourse to it in its wants, perhaps understanding, that it would be useless to try to draw it out of its purely mercantile and private operations.

On the other hand, in the far off State of Chihuahua, a North-American citizen, Francis Macmanus, was authorized in November 1875 by the local legislature, to establish a Bank, which was called *Santa Eulalia*, with the power to issue Bank Notes for fixed sums, repayable in hard dollars with 8 per 100 discount or at par in copper money which at that time was current in the State by virtue of the coinage there by the federal Government or with its authorization and as a financial recourse in time of the Empire. Similar to this Bank, and always with authorization of legislature, two or three other Banks were established in the following years, also empowered to issue a certain amount of Bank Notes under the already mentioned conditions, and giving to the local Government as a security, mortgages or that of a different nature not very well defined in the concessions.

his laws on commerce, apart from the really financial one, which we shall examine in an other place of this book, and of his immense assiduity and never suppressed eagerness to inquire into and to make the facts concerning our financial Administration popular, which always was to him an inextricable labyrinth in which no one scarcely dared to penetrate.

## CHAPTER IV

### THE FINANCIAL INSTITUTIONS (1)

OUR study on Mexican commerce would remain incomplete, if we were not to include in it the Financial Institutions, which play such an important part in modern times, as they greatly contribute to facilitate the exchange and movement of values. We have resolved to do this in a separate chapter, for the reason that these Institutions constitute certainly the highest speciality in commerce, not only on account of their acting on the precious metals and money, the most exalted of merchandise, but because they have an indisputable influence on all the branches of public wealth, with the highly excellent means employed to give as manifold as ingenious forms to credit, and even to go as far as to acquire the category of first class factors in the economical development of civilized Nations.

By this it is said, that such Institutions could not generate amongst us while the political anarchy was cronicaly our principal disease, although amongst our laws not a few are registered, ordaining to establish a National Bank, because credit cannot be decreed nor imposed, if not the spontaneous fruit of a social nature, the original conditions of which are represented in the public security, in the rapid way of communication and in the existence of a great quantity of disposable capital, which, as the water, fertilizes and vivificates the ground upon which it falls.

Therefore these laws were sterile, inasmuch as banking operations did not constitute a speciality with us until 1864 but were carried on by rich firms trading in other branches or enterprises and attended to by them or, as the occasion presented itself, for making ready cash loans or to dispose in various places of the funds that had an opportunity or necessity to be removed and concentrated. Some of these firms, above all those of foreigners, who gave to banking operations a certain preference, soon saw, that ready money never reaped the benefit in private undertakings as in speculations with our Governments, eternally in want, did not wait long in falling in the temptation of dedicating themselves to this kind of risky operations, causing ruin to more than one too daring speculator, either with his last capital or through the untimely change of Government lost the personal influence, which was necessary to preserve in order to attend to the engagements solemnly entered into with the Government commissioners, in the midst of the afflicted situation in which the Exchequer constantly lived.

One of those houses, in the opinion of respectable persons whose fate it was to live in those unfortunate times, set up a kind of Discount-Bank, putting in circulation promissory notes, repayable at sight and to bearer, though not for fixed sums, neither using entirely printed, engraved or lithographed documents, but only for the variable amount of the money committed to its care on deposit. Nevertheless, these promissory notes had a certain amount of circulation in the Capital, representing the paper money, for as such they passed from hand to hand amongst the commercial houses, as long as the firm, by

(1) The author believes it to be his duty to observe, that he has been consulting solicitor to the National Bank since its foundation in 1882 and therefore has taken an active share in the polemics and discussions, sometimes of a lively nature, which in years gone by were stirred up on the occasion of the concession to the said Bank. The reader will do well in bearing it in mind, although the author has tried to limit himself to expose facts officially evident or well founded, abstaining from making commentaries and remarks, not absolutely necessary for its history.



by impulse of a moving necessity of expansion and life; and in this way the fiduciary circulation, without being subject to any scientific principles, was in 1882 in the hands of the two free establishments, the London Bank, of Mexico and South-America, and the Mexican Mercantile Bank; of a benevolent Institution really governed by public functionaries, the National Lombard-House and of a legally authorized Bank to issue notes and to perform the consequent operations, the National Mexican, which commenced close upon its foundation to establish branches in the most important business centers of the country, in which movement the Mercantile and the Lombard-House had soon to follow. Besides, two or three little Discount-Banks, which did not extend its operations beyond the Chihuahuanse territory, worked in the

State of Chihuahua and authorized by its legislature as we have already said.

The effect on the Money Market, i. e. on those capitals devoted to Banking transactions, was contiguous and highly beneficial; the commercial rate of interest, which usually was 12 per 100 per annum, fell immediately to 8 and 9, and not long afterwards, to the surprise of every one, it was seen at 6 per 100. This result, although partly due to the Banks, was not their exclusive consequence, but to the general movement impelled by the introduction of capitals employed in rail-roads and by the very existence of these, it was exclusively attributed by many to the most recent financial Institutions, putting the Banking question to the order of the day.

In face of the silence of our political Constitution, which said nothing on Banks, and which only gave to the federal legislator powers to enact *the general bases of the mercantile legislation*, rose the most contrary opinions. By some it was maintained (and this opinion was strictly sympathetic and popular), that the issue of Bank Notes was an entirely free commercial action conformably to the Constitution, which, amongst the rights of man, gives liberty to all inhabitants of the Republic to devote themselves to profession, industry or suitable work, that of being useful and honest. Others defended the doctrine, that to the faculties of public powers, belonged naturally and necessarily the one of regulating the fiduciary circulation, comparable in many respects to the monetary circulation, which was never and in no parts left in the hands of citizens, but has been the prerogative of the State; and not only were these divergent opinions maintained by the press, but they divided the members of a Commission appointed by the Secretary of Finance to specially study this matter (1).

As a valuable result of these discussions and labors was the initiation and carrying out of the cons-



Emmanuel Ibañez

President of the first Council of Administration of the Mexican Mercantile Bank

*cantile legislation*, rose the most contrary opinions. By some it was maintained (and this opinion was strictly sympathetic and popular), that the issue of Bank Notes was an entirely free commercial action conformably to the Constitution, which, amongst the rights of man, gives liberty to all inhabitants of the Republic to devote themselves to profession, industry or suitable work, that of being useful and honest. Others defended the doctrine, that to the faculties of public powers, belonged naturally and necessarily the one of regulating the fiduciary circulation, comparable in many respects to the monetary circulation, which was never and in no parts left in the hands of citizens, but has been the prerogative of the State; and not only were these divergent opinions maintained by the press, but they divided the members of a Commission appointed by the Secretary of Finance to specially study this matter (1).

(1) It was composed of Messrs. Emmanuel Dublan, Vincent Riva Palacio, Emmanuel Mary Saavedra, Jenaro Raigosa and Paul Macedo.

Finally, the National Lombard-House (pawn-office), an institution established in the town of Mexico at the end of the XVIII century with a capital of three hundred thousand pesos by the first Count of Regla, Peter Romero de Terreros, to make loans on pledges to the poorer class, the patronage of which was assumed by our Government in declaring the Independence, was administratively authorized by the Home Secretary at the end of 1879 and the beginning of 1881 to carry on banking transactions, amongst which that of issuing deposit-receipts repayable in cash at sight and to bearer, which really were nothing else but Bank-Notes.

Thus was the state of things in the year 1881 in which a group of clever business men from France, who formed the Franco-Egyptian Bank, commissioned Edward Noetzelin, an intelligent financier, whose name the reader will see figuring in the history of our contemporary public treasury, if he interests himself in it, in order to obtain, as he did in August of the same year, from the Government of the President, general Emmanuel Gonzalez, a concession with the object of establishing in Mexico a National Bank with a nominal capital up to twenty millions of pesos but which would have to commence operations with at least three millions in cash and which would have the right of issuing notes, payable at sight, to bearer and in cash, for the triple amount of its stock in cash or in bars of precious metals. This Bank, without arriving to constitute a State Bank in the right sense of the word, would lend its services to the National Government for home purposes and abroad, taking charge of placing and bringing to a common center the federal funds, to attend to the National Debt, and in fact would constitute the banking organization of which our Government would avail itself for its financial services, besides being obliged to open an account current at the general Treasury at a rate of interest of no less than 4 nor exceed that of 6 per 100 per annum, the turn-over of which would annually amount up to eight millions of pesos, liquefiable every six months. In exchange, various exemptions from imposts and certain exclusive rights were granted to the National Bank, as for instance that of its notes with those of the Lombard-House were the only ones admissible in the tax-collecting-offices of the Federation, and the one of being preferred under the same conditions, or as much, in financial transactions of every kind.

The moment for establishing the National Bank was chosen with singular circumspection, because the construction of the large rail-roads had initiated our economical resurrection and on the other side, the group which was at the head of the enterprise in France, was not composed of speculators without elements, as it is customary in latin America with those who introduce business on a large scale, but of intelligent and respectable financiers; for this reason it was easy to attain, that Mexican firms of the first order and distinguished personalities amongst our most prominent business men, should co-operate in the scheme. Under these auspices, the National Bank of Mexico opened its doors to the public on the 23<sup>rd</sup> of February 1882 (1). Whether, as some said then, at the subscription of the original capital of the Bank (\$ 8,000,000, with 40 per 100 paid) a certain exclusive spirit prevailed in not giving entrance to all the principal firms of the town, or that others believed that the capital would in many ways not be sufficiently ample to give full satisfaction to the necessities of the market, as posterior events soon happened to justify, the fact is, that it was not long before a new Bank, called the *Mexican Mercantile Bank*, sprung up in the very city of Mexico and without any official concession, and which, with a capital of \$ 4,000,000, with 25 per 100 paid and subscribed in its totality by Mexican and Spanish houses, commenced business on the 27<sup>th</sup> of March in the same year of 1882 (2).

It happened therefore on this occasion, not very common in social phenomena, that «might came before right,» and before there was a law to which the Banks had to adhere to, they commenced to exist

(1) Messrs. Anthony de Mier y Celis, president, Felix Cuevas, Raymond G. Guzman, Joseph M. Bermejillo, Gustavus Struck and Sebastian Robert, formed the first Council of Administration.

(2) The first Council of Administration was formed by Messrs. Emmanuel Ibañez, president, Emmanuel Romano, Joseph Gargollo, Peter Martin, Raphael Ortiz de la Huerta, Anthony Escandon y Estrada, John J. Martinez Zorrilla, Jenaro de la Fuente and Francis M. de Prida, as proprietors; and Messrs. Nicholas de Teresa, Peter Suinaga, Richard Sainz, Lewis G. Lavie and Edward Ebrard, substitutes.

over many years, but it saved the capital of the institution, which has kept on lending its benevolent services to the public in the shape of loans on pawns (1).

«To make that situation worse,—says Mr. Barrera Lavalle himself,—the public treasury found itself in that year in a lamentable state of poverty, inasmuch as the yearly revenues had diminished by \$ 6,000,000; the decreases of previous financial years amounted to more than \$ 23,000,000 with the aggravating circumstance, that the future customs-revenues were already by more than 87 per 100 disposed of; all revenues derived from contributions, were delivered to the National Bank in payment of its loans; those from the National Lottery and a great part of those of the Administration of District taxes were also daily delivered and destined for the same purpose; the mints were burdened in favor of its respective lessees with \$ 2,384 568'67; and finally, the national buildings carried a charge in favor of the Mortgage Bank of more than a million pesos.

»The natural tendency of the members of the government, desirous of attending to the delicate mission committed to their care, is, thereupon, to find the remedy for the public calamities which affect those that are governed by them; resulting therefore, that the first consequence that arose from such a lamentable situation, was the moral pressure, which those persons addicted to politics at the time we are just referring to, brought on the members of the Council of Directors of the National Bank and that of the Mexican Mercantile, to proceed at once with the fusion of the two establishments, in exchange of which a new concession was granted to them.

»The interest shown by influential political persons of that day, so that the union might take place as soon as it were possible, recognized as a motive a patriotic desire, which was, that in amalgamating the two Banks, the National of Mexico could enlarge the credit which it had granted to the Government with less difficulties than before and to arrange with a relative facility the negotiations which it had pending with the Public Treasury.

»At the meeting on the 2<sup>nd</sup> of April 1884, the representatives of the Banks agreed upon the bases of the fusion of both establishments, which in its essential part were as follows:

»1.<sup>st</sup> The Mexican National and Mexican Mercantile Banks amalgamate under the name of «National Bank of Mexico,» to which all capitals, property, credits and rights of both, shall belong to, at the same time holding itself responsible for the expenses, responsibilities and debts of the same. For the union of the establishments, the respective Balances of 31<sup>st</sup> of December 1883 are mutually accepted.

»2.<sup>nd</sup> Once verified the union, the National Bank of Mexico shall increase its nominal capital to twenty millions of pesos, divided into 200,000 shares of \$ 100 each, with 40 per 100 paid. These will be distributed in the following manner: 80,000 will be put in the hands of the shareholders of the Mexican National Bank in exchange of those they at present have of that institution; 80,000 will also be delivered to the shareholders of the Mexican Mercantile Bank, in exchange of 40,000 they possess with 60 per 100 paid, besides 20 per 100 which they will have to pay when the fusion is being verified; 15,000 will be subscribed by Mr. Edward Noetzelin at par, but with the addition of \$ 1.04 per share, belonging to the reserve fund of the National Bank of Mexico. The remaining 25,000 shares will be at the disposal of the Council of Administration, in order to distribute them in the way most convenient, but not less than at par and with the mentioned addition.»

At the same time when this fusion was agreed upon and according to the power given to Congress of the Union by virtue of the constitutional reform of 1883, to which we have alluded, the Commercial Code of 15<sup>th</sup> of April 1884 was published, which subjected the financial institutions to various restrictive rules, of which the following were the principal ones:

(1) In principle, calumny attributed a great part of this calamity to the National and Mercantile Banks, principally to the first; but history has done justice to these establishments helping, as they did, the Lombard-Bank, not only in receiving its notes up to the last hour, but also in furnishing the money they could without risk to their own cash-stock. See the third article of those already mentioned by Mr. F. Barrera Lavalle.



titutional reform, by virtue of which the Congress of the Union continued in direct terms invested with the power to sanction the «Commercial Code, obligatory for the whole Republic,» in which the financial institutions were included (14<sup>th</sup> of December 1883).

In the meantime the federal Government kept on granting special concessions to all kinds of Banking establishments, and with the exception of a few, which only remained in writing, among those deserving special mention is the one granted to a Mortgage Bank, of which we shall speak hereafter, and the one authorizing the foundation of a Bank for «Government officials» having for its principal object, as indicated by its name, to transact business with the public functionaries or clerks, but with the power of issuing notes repayable to bearer and at sight. Although this Bank, founded by a financially weak group, never arrived at having any importance, not even to make use of its right to issue notes, no doubt timorous of not finding public favour for the circulation of its notes, we have been obliged to allude to it, as it will be seen hereafter, on account of the part its concession took in our banking history.

While this happened, the good times had passed, the monetary market shaping itself to the general circumstances of the country: the importation of the capitals for rail-road purposes on a large scale had ceased, disorder in government spheres had made itself supreme and the storm came nearer with long strides, being indisputable, that at the least obstacle, the weakest of the competing Banks would succumb. Unfortunately this part fell to the National Lombard-Bank, «which commenced its issuing and discount transactions with nine millions in notes,» authorized by the result of the deliberations of 6<sup>th</sup> of September 1879, 12<sup>th</sup> of February and 5<sup>th</sup> of July of 1881. In the month of August of the last mentioned year, it had already issued the sum of \$ 2,414,860; dazzled by the success it then had, due to the favorable conditions of the market, which on account of the rail-road works were at that plethoric epoch of circulatory cash, a situation that prolonged itself during the years 1881 and 1882, it happened that this financial establishment would have been able to keep in its chests a cash reserve of \$ 4,000,000. That happy state, more apparent than real, made the Lombard-Bank to launch in combinations of loans on mortgages, the buying of landed property and works of rebuilding the immovable estate occupying its central offices, which naturally would weaken the cash reserve which was destined for the repaying of its notes. On the 1<sup>st</sup> of May 1882, the note circulation of the Lombard had risen to \$ 4,168,360 and its cash reserve diminished to \$ 3,178,165<sup>66</sup> (1).

It was two years later, i. e. in April 1884, the note issue coming up to \$ 4,327,369, the cash reserve being reduced to \$ 2,480,069, when the public run alarmed to the Lombard-Bank soliciting the exchange of its notes. The alarm was soon converted into a panic, the establishment having finally had to declare itself overpowered and to close its doors to the exchange of notes. Nearly two millions pesos were left in the hands of the public without being redeemed (2), and though there were not persons wanting who were highly prejudiced by this event, every body contributed to diminish the effect of that disaster, helping in the realization of the bills of exchange, loans on mortgages and on property in which the capital representing the notes was made immovable, not only were the latter repayed, though slowly and

(1) F. Barrera Lavalle: *Las instituciones de crédito de la República*, economical study published in the first and following numbers, volume XXXIV of *El Economista Mexicano*, a weekly paper on economical and statistical matters.

(2) According to Lewis G. Labastida in his: *Estudio histórico y filosófico sobre la legislación de los Bancos*, page 75, the Lombard-Bank withdrew the following sums from circulation:

At the head-office in the City of Mexico . . . . .	\$ 2,281,912
» the branch-offices in the City of Mexico . . . . .	» 8,619
» the branch-office in Puebla . . . . .	140,000
» Querétaro . . . . .	12,101
» Oaxaca . . . . .	4,477
» San Luis Potosí . . . . .	32,960
Total . . . . .	\$ 2,480,069
The issue having been . . . . .	» 4,327,369
The deficit was . . . . .	\$ 1,847,300



tioned account will be mutual, i. e. 6 per 100 per annum, crediting or debiting it by days, settling the aforesaid account on the 1<sup>st</sup> of July of each year. The balance of this account will be settled by equivalent values on the part of the Government, allowing the Executive to consign to the Bank, as a guarantee, what they owe in current account, a part of the duties raised at the maritime and frontier custom-houses, by issuing certificates to this effect which are handed over to the Bank.»

With regard to the notes of the National Bank, the following has been stipulated:

«The federal offices cannot receive in payment of imposts or taxes of the Federation, notes of any financial establishment, established or to be established, different to those of the National Bank, neither paper money of any kind. The aforesaid offices can also receive during three years as current money, the notes which the Lombard Bank may still have in circulation, if this would suit the Government.»

This concession was finally approved of by Congress on the 31<sup>st</sup> of the same month of May, carrying out the agreed upon fusion on the following 30<sup>th</sup> of June, in the way as arranged, raising the capital of the Bank to \$ 20,000,000 nominal with 40 per 100 paid, i. e. \$ 8,000,000 laid down.

It would not be well befitting that the author of these lines make a detailed report of the services rendered by the National Bank to the Government during those unfortunate circumstances which characterized the last years of the presidential period of General Gonzalez. Others have already done so, and so as to make only use of the recent testimony of Mr. Barrera Lavalle himself, whom we have already mentioned, we will here insert some more words of his:

«As our criterion in the matter discussed is sufficiently void of the passions, which at the epoch referred to domineered men who busied themselves about this question, we have no inconvenience whatever to recognize, that the National Bank behaved on that occasion with noble disinterestedness, for it managed to arrange its difficulties with the Government on such good conditions for the latter, that it was indebted to General Porphyrius Diaz for a letter directed to its Council of Administration on the 5<sup>th</sup> of December 1884, in which this distinguished Head of the State showed its gratitude to the Bank for the patriotic conduct observed by the mentioned institution during those critical moments.»

Thus things were found by the new presidential Administration of General Porphyrius Diaz, which continues since the 1<sup>st</sup> of December 1884. It can be said, that from thence to now two well characterized periods in this as in all other branches, dependent on the financial Administration, have taken place: the one includes the time during which the Secretaryship of the Exchequer was in the hands of Messrs. Emmanuel Dublan, who died in that post in the year 1891, Joseph Anthony Gamboa and Benedict Gomez Farias, and the other initiated in 1893, since this department has been in charge of Joseph Y. Limantour.

During the first of these two epochs the so called entry of the London Bank into the legal regimen took place, which, by virtue of the transference of the concession of the «Bank for Government officials (1),» approved by the Government, took the name of «Bank of London and Mexico,» not without having before tried to evade the banking statutes, calling in evidence the fact, by virtue of the appeal for protection, of having been established when these statutes not existed. Such an appeal could not prosper, because the banking statutes, being good or bad from its economical point of view, were not retroactive if applied to institutions which could only call upon a fact as title of its establishment, and from which the Bank had to desist in time so as to take refuge under the transfer of a concession stipulated by the public power.

It was also during that epoch of Mr. Dublan's Ministry, that the position of the local Banks of Chihuahua, which obtained special concessions, was changed, which not even rested on uniform bases and which,

(1) This Bank, though it changed the name and was called «Commercial» pretending to enlarge the circle of its operations, kept a rather precarious situation, for, as at the beginning it transacted business with public functionaries and on their salaries, at the time when these were not paid, it had to suffer considerable losses.

«1<sup>st</sup> In order to establish a Bank of whatever kind it may be, the authorization of the Federal Government is required; the Companies forming the same have to be anonymous and to be composed of at least five founding members. No Banking Company nor a private Bank established abroad can have a branch-office or authorized agencies in the Republic to change the notes they issue, of whatever form they may be.

»2<sup>nd</sup> No private individual nor Company not authorized in the terms of this Code or in that of a federal law, can issue promissory notes, bonds, nor any other document containing a promiss of payment in money to bearer and at sight, be it in the form of notes, in deposit receipts or in any other way.

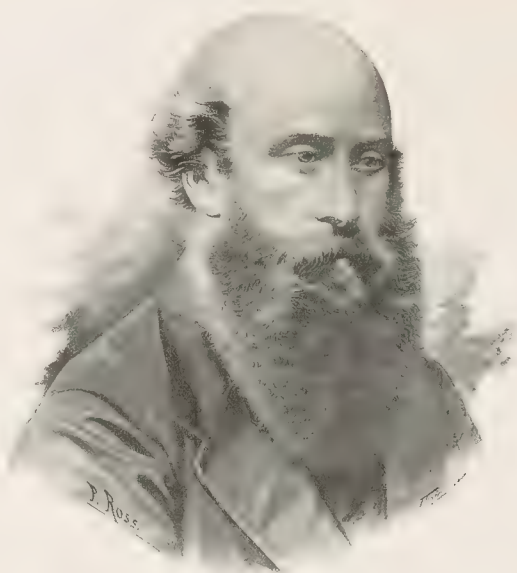
»3<sup>rd</sup> In the Discount-Banks, the issue cannot exceed the capital paid by the shareholders. The third part of which shall be guaranteed by a deposit in the general Treasury of the Federation, in cash or Bonds of the Public Debt or giving a guarantee. These Banks must have a cash reserve of the third part of the amount in circulation, and finally, they will be obliged to publish a monthly cash statement in the *Diario Oficial* and in other newspapers, and also to pay a 5 per 100 impost on the total amount of the notes they issue in conformity with the conditions expressed.»

The other articles of the Code refer to the minimum of capital subscribed with which the Banks, soliciting authorization from the Government (\$ 500,000), would have to rely upon, and to the penalties that would be inflicted on the Companies or private individuals issuing or circulating fiduciary values without the mentioned requisites and against that predisposed by statute.

It was further prescribed in a transitory article of the new Commercial Code, that the Banks established without the previous authorization of the Congress of the Union, cannot continue its transactions without submitting to the requisites of the Code, and if this were not done within six months, they would be put in liquidation for the purpose of covering its notes.

A month afterwards, on the 15<sup>th</sup> of May 1884, a contract was signed with the Mexican National Bank proroguing its concession for fifty years, enlarging some of its privileges and exemptions, specially stipulating, that the Government would not consent to new concessions for establishing Banks that issue notes if not in conformity to the rules of the latest Commercial Code and that the dispositions of this statute would be strictly adhered to, relative to the existing Banks without federal concession. In exchange, the capital of the Bank would be raised within a short space of time to \$ 20,000,000 with 40 per 100 paid, and as regards to the account current with the Treasury, the following was stipulated:

«The National Bank binds itself, always when the Federal Executive should so resolve, to open to the general Treasury of the Federation an account current in the commercial style, by montly statements, the turn-over of which may come up from six to eight millions of pesos yearly. The interest in the men-



William Newbold, the first manager of the  
«London Bank of Mexico and South America, Limited,» branch in the City of Mexico

tion; perhaps it would have come to pass, that the country be led on such a misleading path, if various circumstances had not come to make things take definitely a distinct course, though for the present special concessions kept on being granted for Banks in the States.

The condition in which Mr. Limantour found the Public Treasury in 1892, required his absolute consecration to matters so urgent as the one of balancing the budget, the final settlement of the Public Debt, the abolition of the excises and others. In the meantime he did not grant any new concession, and abided at the end of 1895 and at the beginning of 1896 the problem concerning the financial institutions in opening negotiations with the National Bank of Mexico, in order that it may consent to modify its concession, so that it might be legal to allow the States to establish Discount Banks. When these negotiations had given on principle the result which Mr. Limantour expected, he applied to Congress asking authorization to publish the general law on financial institutions, promised by the Commercial Code of 1889, derogatory from the one of 1884, and to negotiate with the National Bank of Mexico to renounce that which in its concession might be opposed to that law, by means of equitable compensations, the general bases of which were then indicated. Congress granted the solicited authorization, and as its text includes clearly the principal points of the law, which was published on the 19<sup>th</sup> of March 1897, we beg to insert it in this place:

«1. The Executive of the Union is authorized to publish the general law by which, the concession, the establishing and the transactions of the Discount Banks (issuing notes) in the States of the Republic and in the Federal Territories, have to be governed, subject to the following bases:

I. »No concession shall be granted without the grantees depositing Bonds of the National Public Debt, of which the nominal value at par be at least equal to 20 per 100 of the sum that the Bank must have in cash to commence its operations.

II. »The minimum of the capital subscribed will be \$ 500,000 of which at least the half must be paid in cash before the Bank commences its operations.

III. »In every Bank the cash reserve must never be lower than the half of the amount of its notes in circulation, joined to the amount of the deposits repayable at sight or with a previous notice of three days or less.

IV. »No Bank can be authorized to issue notes for a larger amount of the triple of its cash capital.

V. »The notes will be of free circulation, and of no less value than five pesos.

VI. »The exemptions or reductions of imposts are only granted to the first Bank established in any of the States of the Republic or Federal Territories. The other Banks will have to pay all imposts enacted by the general laws; besides a special one to the Federation of 2 per 100 per annum on the amount of the cash capital. As to the meaning of this fraction, the first Banks are considered those at present established, provided they adhere to the prescription of the general law.

VII. »The Banks established in a State cannot have branches out of its territory to realize the exchange of its notes but only by special permission of the Executive who only shall grant it in case of close commercial interest between various States, and never can the said branches establish themselves in the City of Mexico nor in the Federal District.

VIII. »The Federal Executive shall have a comptroller at the Banks, whose functions shall be specified and who, at the making of the yearly balances, shall have the same powers as those granted by the statutes to the commissioners of Joint Stock Companies.

IX. »The Banks shall publish a monthly cash statement in which, besides the balances of the accounts according to the law, appears the amount of the cash reserve, that of the notes in circulation and that of the deposit receipts repayable at sight or with a previous notice of three days or less.

X. »No concession shall be granted by the Executive of the Union except it be after the general law on Banks has been published and with entire subjection to the same.

»Art. 2. The Executive shall likewise be authorized:



at all events, did not conform itself to that enacted in the Commercial Code of 1884 neither with that expressly agreed upon with the National Bank of Mexico.

To all this an excuse might be found in regard to the interests caused to exist; but to which no rational foundation can be found, is that of having raised a system of complete anarchy in a matter so delicate as the fiduciary circulation of a nation; and in derogating the Commercial Code of 1884, the same was done in that of 1889, omitting all injunctions on Banks, and in making concessions indiscriminately with regard to the establishing of local Banks in numerous States of the Federation, without any control to uniform rules. Thus, concessions were given to establish issue, agricultural, industrial and mining Banks in Jalisco, Puebla, Guanajuato, San Luis Potosí (two concessions), Durango, Yucatan (three concessions), Nuevo Leon, Veracruz, Sonora and Zacatecas, and though not all came to be established, see how Mr. Limantour describes the situation in an official document in which these matters were treated, when in 1896 he was occupied in the resolving of the problem of our fiduciary circulation:

«Seven Banks were working in the States when the decree of the 3<sup>rd</sup> of June 1896 was published, not existing two, of which concessions were identical, but they all differed on various points more or less substantial. Thus, for instance, one concession ended in 1904 and others at a remoter date, while the last terminated in 1939; the issuing of notes was regulated, for some of the Banks, for the amount of the Company's capital and for others for the triple amount of the said capital; the circulation was guaranteed in exacting security from some of the Banks, from others a deposit and from others again neither security nor deposit, but a guarantee of a different kind. The reserve funds were enacted in very distinct proportions, according to the establishments; the right of establishing branches was limited to certain Banks and to others it was subject to diverse restrictions; the minimum value of the notes, that could be issued in some of the concessions, was twenty five cents; while in others the notes of the smallest amount was that of a peso; there was a Bank that was allowed to make loans for twelve months with the permission to prolong them, while the transactions of the others was limited to six. The same differences were noted in the guarantees given on loans and discounts, the same in privileges and exemption from taxes and in other fundamental requisites of the concessions.

But the disorder did not finish here, except that the Mortgage Bank, to which we shall give our special attention later on, was authorized to issue real notes repayable to bearer and at sight in gold or in silver in the form of deposit receipts, in the Republic or abroad, and the Home Secretary, allowing the administrative authorizations, which at an unseasonable hour was permitted to the National Lombard Bank, to convert itself in a Bank to issue notes, transferred them to a private individual, authorizing him to establish in the Capital a Bank that would be called the Bank of Public Works. Fortunately for the Republic (we cannot do less than say so, for we mean it sincerely), neither the Mortgage Bank came as far as to put its notes in circulation, nor was the Bank of Public Works established.

It is superfluous to say, that all this was done in spite of the respectful remonstrances and protests of the National Bank of Mexico, which never left off lending very important services to the Government, though never compromising its own existence, nor to lose the right of accomplishing its mission as a powerful auxiliary to the commerce and industry of the country and all this under very difficult conditions of a formidable financial crisis and of the real impossibility to increase the capital of the Bank itself, on account of the distrust which such an open violation of the law of the covenants and contracts produced, that in former times they had concluded with it.

When at the end of 1889 things had arrived at this height, it was thought of creating a system of issue or Discount Banks, and at the Finance Secretary's request, various schemes were formed, of which the most complete was to advise fundamentally the adoption of the Banking system of the United States, which consisted, as it well known, in guaranteeing the fiduciary circulation by the deposit of Bonds of the National Debt *at its market value or less*, for the total issue of each Bank and even of a larger amount. The scheme we allude to not even adopted this regimen in its entirety but it only exacted a deposit of Bonds of the National Debt *at its nominal value*, equal to 25 per 100 of the notes in circula-



Taking the power of issuing notes from this point of view, the National Bank of Mexico and the one of Nuevo Leon may have in circulation up to the triple amount of its cash reserve; the others, including the London and Mexico, cannot exceed the double of its reserves, besides having to compute in the circulation of the local Banks the amount of its deposits repayable at sight or at a term of three days or less. On the other side, the note issue of each Bank cannot exceed the triple of its paid capital. On this point, the National Bank of Mexico is not more limited than by that derived from its cash reserve.

All the Banks are subject to the circumspection of one or more comptrollers commissioned to prove the correctness of the monthly balances which have to be published, to watch the carrying out of the concession referring to the security given to the public, and to sign the notes.

The Banks are prohibited to discount securities of a longer term than six months and to carry on transactions on mortgages without permission from the Secretary of Finance, nor to receive as security or to negotiate its own shares and to pledge its bills, in which the legislator has opportunely looked for the guarantee of the note, not having fallen in the error to tie the fiduciary circulation with the Public Debt for reasons opportunely exposed by Mr. Limantour in the report rendered on the law of 1897 in the following terms:

«Such an ardent desire to save the Banks against all political influence was evinced, that however great the encouragement offered by the preceding forms created in former concessions might have been, exacting, that part of the circulation be guaranteed by the deposit of public securities, it was nevertheless thought inconvenient to preserve this requisite in the law and for this reason it was not exacted that a deposit more or less exuberant in Bonds of the Public Debt should be made as a guarantee of the payment of notes. In fact, which would be the influence, as an element of security and confidence, that such a deposit on the credit of a Bank could have, in case of a precipitate fall in Government stocks through political vicissitudes of either an exterior or interior nature? Would it not increase the intensity of the evil and danger, if there would be any, the circumstance of lowering the value of the guarantee, precisely at the moment when the transactions are paralyzed through the general crisis, the money hidden and payments stopped?»

This ingenious system, which reached the majority of the Banks with a regular amount of securities for the public and without tying the financial institutions to the «stock in trade of» official finances, has drawn the attention of thoughtful men, even in the United States themselves, and has up to now worked with us without any hitch, inasmuch as we have not had again any banking crisis since the one produced in 1884, though since that time to now, we have gone through circumstances not exempt from dangers, be it through several years of bad harvest, which enormously limits the consumption and marks the paralización of our growing industries, be it through the tremendous fluctuation and fall of the price of silver, phenomenons which so much affect our monetary market, the cash reserves of the Banks and public wealth in general.

With regard to the duration of all concessions, except those of the National Bank and of London, they were granted for thirty years, counting from the 19<sup>th</sup> of March 1897. Thus, when that term falls due, there will be an opportunity of altering at the same time and for all the Banks the deficiencies which in the actual legislation are beginning to be observed.

Such has been the task accomplished by Mr. Limantour on this very important matter and it would be useless to exert ourselves in showing to advantage the grand hability and intelligence required to do it: only let us be allowed to recover the honor for the National Bank of Mexico (though it may seem that the author pronounces in this, as Cicero, an oration *pro domo sua*) for not having been an obstacle to finish a work without friction nor difficulties which has been looked upon as highly patriotic. This proves, at least, the high aim of those who have governed the first of our financial institutions, more than once intemperately accused of selfish and contrary aspirations to the public welfare and to the prosperity of the Nation.

I. »To make arrangements with the National Bank of Mexico, in virtue of which and by means of some equitable compensation, that all motive of incompatibility between the concession of the Bank and the execution of the general law to which the former article refers to may cease.

II. »To make agreements with the already existing Banks in virtue of special concessions; under the understanding that the Banks of the States, so as to enjoy the benefits of the general law, shall have to renounce the concessions which may have given them their origin.»

A few months after this authorization was granted, an understanding with the National Bank was arrived at, according to which, though its concession was prolonged for fifteen years, the Bank consented that this should be modified whenever it opposed the establishing of local Banks in the States according to the bases that had to serve for the execution of the general law on financial institutions; that the balance to the debit of the Government in the current account of the general Treasury could be increased to four millions instead of the two fixed in former contracts, and to reduce considerably the commission to which it had a right to receive for the service of the Public Debt and for the collecting of the funds in the interior of the country. With regard to the Lombard Bank, it bound itself for ten years not to make any use for itself of the authorizations it had to issue notes and not to cede nor transfer them to any private individual nor corporation. In exchange, the National Bank has thence opened it an account current for \$ 500,000 at a mutual interest of 3 per 100 per annum, of which it certainly did not make fully use of, as the institution has not developed its beneficent transactions in an ostensible manner.

The old London, Mexico and South American Bank was authorized at the same time to raise its capital to ten millions of pesos, which priorly had already increased it to five millions, and being converted in a Mexican Joint Stock Bank, succeeded in getting its concession prolonged to fifty years (1).

In the meantime, a commission composed of three bankers and as many lawyers (2), were occupied in preparing a plan for a general law on financial institutions, which, as regards Discount Banks, had to submit themselves to the bases introduced. At the finish of its labors, the plan presented was converted into the law of 19<sup>th</sup> of March 1897, with some important alterations.

The task which Mr. Limantour imposed upon himself was not concluded by this, for there remained seven Banks standing in the States, governed by very dissimilar concessions. By virtue of the advantages offered by the new law, six of them submitted to it shortly afterwards, only the Bank of Nuevo Leon preserved the right of issuing notes, though subject to all the rest of the law, not only for the double, as the other Banks of the States, but for the triple of its cash reserve.

We give herewith the genesis of our issue Bank system, which we can sum up thus:

Two large Banks in the Capital of the Republic with the power of opening branches all over the country, and in each State of the Federation a local Bank without any authorization whatever to set up offices in the Federal District for the exchange of its notes nor branches outside the State in which they transact business, but only in special cases and with permission of the Secretary of the Exchequer. The States of Nuevo Leon and Yucatan form an exception, as each of them has two local Banks, established before 1897 (3).

On the other hand, no other Discount Bank may establish itself but under the restrictive conditions fixed in 1884 at the time of reforming the concession of the National Bank. They can establish other local Banks in the States but without enjoying the privileges and exemptions granted to the first founded in each State and in paying an impost of 2 per 100 on the cash capital.

(1) This Bank increased its capital afterwards to \$ 15,000,000 paid integrally.

(2) Messrs. Charles de Varona, director of the National Bank, H. C. Waters, manager of the London Bank, H. Scherer and Messrs. Joachim D. Casasús, Michael S. Macedo and Joseph M. Gamboa.

(3) Of the local Banks of Chihuahua, only the Mining Bank subsists, for the others have liquidated or have been absorbed by this one.

Once in possession of the shares of the Mortgage Bank, or of the majority of them, it asked and obtained from the Government, that the concession may be modified in the sense of authorizing the establishment to transact all kind of operations characteristic of a mercantile Bank, such as in Stocks and Shares, Bills of Exchange, Discounts besides the one of receiving deposits against which it was allowed to issue and to put in circulation certificates payable to bearer and at sight in gold or in silver in the Republic or abroad.

The capital of the Bank was increased to \$ 5,000,000 with 70 per 100 paid; the organization of the Bank was changed with deep knowledge and insight, with the authorization to have part of the directorate in New-York; and an idle story of a combination of silver deposits and certificates was talked about, who knows by whom, which had to stop the fall of this metal. Be it, in fact, that the reflection of this combination would have made itself felt in order to obtain the authorization of which we have spoken and that this illusion would vanish, be it that in the mind of the Government the protests raised against them by the National Bank had any influence, being openly contrary to its concession, the fact was, that the much talked of deposit certificates did not come to light.

Nevertheless, the institution performs since then the operations of a Discount Bank jointly with loans on Mortgages which constitute the real object of its foundation, and a more appropriate management of its business has suffered it to see the rise of the price of its Bonds to almost par, in which the strict exactitude with which the Bank has attended to the interests on those securities and the redemption of those drawn, have also had an influence. With all this it keeps on making its loans on Mortgages in Bonds, restricting therefore much its transactions and the services it was destined to lend, above all that to agriculture, so much in need of capital at long terms which permits it to undertake works of permanent improvement, the value of which the soil does not return within the short terms at which the Discount Banks work.

The law on financial institutions has also liberally and prudently regulated the Mortgage Banks, authorizing them to make loans at long terms and to issue Bonds for the amount of the Mortgages created in their favor; but only one Bank, denominated the *Agriculture and Mortgage Bank of Mexico*, uses the privileges granted by that law, having been organized in the Capital of the Republic with a capital of \$ 2,000,000 and commenced business on the 1<sup>st</sup> of January 1901. In accordance to its concession, and having to abide by it, all its loans have been made in cash; those loans, according to its last statements, published monthly, have already reached (on the 30<sup>th</sup> of June 1902) the sum of \$ 571,309, the Bank not having as yet made use of the right of issuing the Bonds authorized by its concession.

We understand, that the foreign markets, where the interest which the Mortgage Bonds can give might be alluring without constituting a burden to the debtors of the Banks, have not taken to this kind of securities through the natural drawback brought about by the uncertainty of the future of silver and to the fate of which the value of our money is tied. As to our national market, neither is it as yet sufficiently extensive, nor does it interest itself to acquire Bonds that yield an inferior interest to the profit the capital may get in other branches of business. In our opinion it is this that has detained and still will detain for a long time amongst us the progress and development of the Mortgage Banks, though public influence with good cause is spreading in their favor.

\* \* \*

A third kind of financial institutions form the object of the law of 1897: the one of the Banks denominated in it as *Refactionaries* and which are characterized by its power of making loans up to two years to facilitate the increase of agricultural produce and the working of the mines, all on defined conditions of security and with privileges still more extensive than those which the legislature generally grants to creditors who revive a negotiation with the purpose of either to secure it or make it productive. As a medium to obtain funds, besides its own capital, this kind of Banks has been authorized to



And now we are going to occupy ourselves with the other financial institutions, ending our study with some figures, the eloquence of which will be more persuasive than reasoning.

\* \* \*

The Mortgage Banks have up to now not deserved the same favor in Mexico as those of emission, for the reason that the National capital has shown itself reserved to dedicate itself to this kind of enterprises, though the mortgage operations be well known and practiced by our private capitalists since the nationalization of the ecclesiastical estates ended with the kind of Mortgage Bank which the clergy established amongst us. When every one run after concessions for Discount Banks, only one solicited and was granted in 1883 to establish a Bank which called itself the *Mexican Mortgage*, and though numerous privileges, exemptions and liberties were granted it, there were hardly eight hundred thousand pesos in the Mexican market in order to constitute the initiatory capital of the growing institution, which was authorized to form itself with a capital of five millions. The New-York market was asked to participate in the undertaking but it did not answer to the call.

As it is easy to suppose, such a small sum was soon absorbed by the demand for loans; and the Bank wished to carry out the medium given to it by the concession to strengthen its working capital i. e. to issue and to put in circulation Mortgage Bonds equal in amount to the Mortgages made, redeemable in twenty years by means of half yearly drawings, i. e. for the same period for which the Mortgages were granted. Be it through the want of custom to accept this class of securities, be it because the interest on the Bonds was not sufficiently enticing, notwithstanding the 7 per 100 at which it was at the beginning, or be it through any other motive, it is certain that the Bank had no chance of placing its Bonds, and finding itself in the impossibility to increase its capital, it would have been obliged to suspend its operations for want of the necessary means, if it had not had recourse to the measure of giving its own Bonds instead of cash to those asking for loans. It was logic to foresee, and in fact it happened to be so, that those who went to the Bank in demand of cash and only getting but letters of credit, which were unknown and little appreciated, got rid of them at a discount in order to satisfy their necessities, and thus it was, that the Bonds were placed at the beginning only at a rate which did not reach 75 per 100 of its nominal value, imposing on the debtor of the Mortgage a tremendous loss, as he was obliged to pay 100 pesos with interest for a loan which hardly came to 75.

As to the rest, and easy it is to understand, that, on account of the anaemic life led by the establishment, the persons asking for loans had to pay in hard cash all the valuation and inquiry expenses of the properties offered in guarantee as well as for the deeds and other things which each transaction required and which were rather considerable; resulting from this, that the real interest suffered by the debtor was exorbitant and therefore only those had recourse to the Mortgage Bank who, through default of a solid guarantee or through other motives, could not find a better way of getting out of pressing engagements. And thus the mortgaged assets of the Bank commenced to inspire little confidence, and which circumstance acted adversely to the progress of quoting its Bonds (1).

In this state things continued till it took its determination at the time when the fever to establish Discount Banks came upon us and which seemed to favor the Government in 1888 and the following years. North-American firms resolved then to participate in that movement and in fact they took charge of the Mexican Mortgage Bank, for no doubt they believed that it would be easier to succeed in modifying the concession that protected this establishment than in obtaining a new one; the sudden rise produced in the price of the shares of the Mortgage Bank is still fresh in the memory of the City of Mexico, rising in a short time from 40 per 100 to par and even above it.

(1) The fact of having the Bank lent to the Government of General Gonzalez a million pesos in Bonds against a mortgage of the national buildings devoted to the public service, also influenced in producing this discredit.



the National Bank of Mexico with all the others. The first of these diagrams shows as the most predominant facts:

1<sup>st</sup> A nearly constant progressive tendency in securities, which from a little more than \$ 37,000,000

### BALANCES OF THE BANKS

31<sup>st</sup> OF DECEMBER 1896  
\$ 135,284,119'80



31<sup>st</sup> OF DECEMBER 1897  
\$ 152,971,101'21



has reached \$ 98,000,000 and remains at a little more than \$ 94,000,000; the loans on securities have passed from thirteen to thirty four millions.

2<sup>nd</sup> Also an almost constant increase in the circulation which has grown from \$ 38,500,000 to 66,000,000 as a maximum, remaining at \$ 64,000,000.

### BALANCES OF THE BANKS

31<sup>st</sup> OF DECEMBER 1898  
\$ 182,640,128'97



31<sup>st</sup> OF DECEMBER 1899  
\$ 223,633,548'36



3<sup>rd</sup> Though the stock in cash has also made progress from \$ 43,000,000 to \$ 52,000,000, it only surpassed the note circulation during the first nine months of 1897, falling afterwards rather abruptly to \$ 35,000,000, i. e. in the last three months of that year, then following almost a parallel course to that of the circulation but always below that one. The largest cash stock of the Banks reached \$ 57,000,000 in June 1900.

issue Bonds called *cash Bonds* bearing interest and being reimbursed at various terms of payment, from three months to two years.

Mr. Limantour showed himself diffident at the account given in Congress on the law of 1897 with regard to the efficacy of these means of procuring funds to agriculturists, to men devoted to industrial pursuits and miners of the country, who may be in want of them, at terms which neither be so long as to take recourse to the formation of a mortgage, nor so short as to be in the reach of those which the Discount Banks may grant. In fact only three of this kind of institutions were founded: two with a small capital in the States of Campeche and Michoacan and an other in the Capital of the Republic under the name of *Mexican Central Bank*. The last one, being very cleverly managed, had prospered rapidly; but the truth is, that it has rendered very little service to the public, in that which ought to be its speciality, and it works rather as a new commercial Bank with a clear tendency of converting itself in a centre of the local Discount Banks of the States and perhaps in a Discount Bank itself, should the law and circumstances permit it to do so.

Our law is still silent on the other financial institutions and for the same reason, the Insurance Companies of all classes, the Savings-Banks in its manifold forms, etc., etc., are established and managed according to the general legislation applicable to them respectively. However, the foreign Fire and Life Insurance Companies operating in Mexico, are subject since 1893 to a special law which exacts certain guarantees from them, consisting either in landed property, mortgages or in a deposit of Bonds of the Public Debt for sums really of small amount.

It is time that we conclude, and we are doing so in showing to our readers some figures and diagrams that will give them an exact idea of the development which our financial institutions have had and in the state they remained at the end of the XIX century.

At the end of the year 1884, as already stated, apart from the London, Mexico and South American Bank which did not publish its balances, and the Banks of Chihuahua, which had no great importance, the National of Mexico was the only Discount Bank in the Republic. It had then six branches and worked with a paid capital of \$ 8,000,000; at the end of the century, that is to say, sixteen years afterwards, it worked with fourteen branches, and it can be said that its nominal capital of \$ 20,000,000 was fully paid, for on the 1<sup>st</sup> of January 1901, consistent with the agreement come to at the end of the preceding year, the shareholders finished freeing its shares in paying the \$ 4,000,000 which had not yet been claimed from them; its cash reserve passed from \$ 4,495,003.28 to \$ 24,488,786.90; its securities, including the loans on securities, rose from \$ 5,310,402.45 to \$ 46,079,114.48; its note circulation increased from \$ 5,174,069 to \$ 22,892,451 and its reserve fund, which came up to \$ 206,882.98 in 1884, advanced even to \$ 6,362,851.27 on the 31<sup>st</sup> of December 1900.

With regard to the increase had by the Banks in general, after the publishing of the law of the 19<sup>th</sup> of March 1897, it has been equally considerable; to prove this, there is nothing better than the five diagrams which our readers will find in these pages, graphically representing the total of the statements of the Banks, comprising the years from 1896 to 1900. By the dimensions of the circles and by those of the segment which each Bank occupies, the general development of our financial institutions and in particular each one of them, are perceptible at a glance.

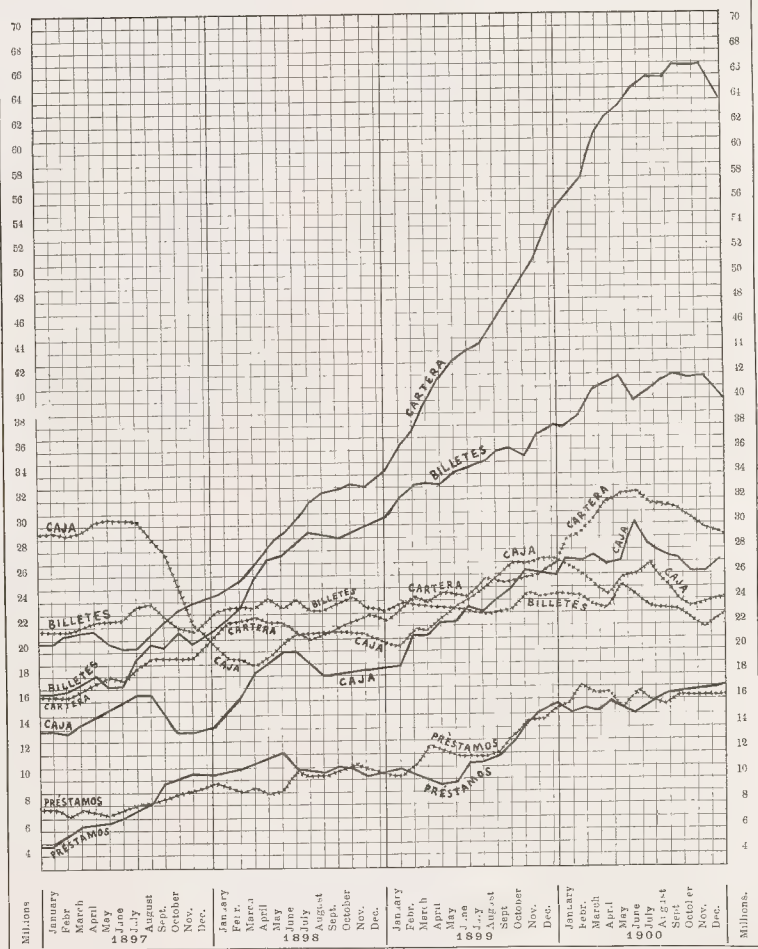
The movement, from 1897 to 1900 of the four principal balance-accounts, *circulation, cash, securities and loans on securities*, is also graphically shown in the lines of the two diagrams which our readers will find on these pages: the one refers to the totality of the Banks and the other is a comparison of

For those of our readers whom figures do not tire, we insert in continuance a general statement which, with sufficient details, denote the number and position of the Banks on the 31<sup>st</sup> of December 1901:

**MOVEMENT in the Cash Account, Securities, Loans on Securities and Notes in circulation of the National Bank of Mexico and the rest of the Banks united, during the years from 1897 to 1900.**

National Bank: \_\_\_\_\_

The rest of the Banks united: \_\_\_\_\_



The second of the diagrams delineated will furnish the following fundamental observations:

1<sup>st</sup> Although there exists an ascensive tendency in the corresponding lines to the National Bank of Mexico (except in cash account), neither is that tendency as pronounced as that one observed which corresponds to the other Banks (above all in securities and the circulation of notes), nor is there such a separation or difference between those than the latter (above all between cash and securities).

2<sup>nd</sup> With the exception of the year 1898 and part of 1899, the circulation of the National Bank notes has been and is inferior to its cash stock, which gives rise to the impression, that this Bank, the reverse of all others, hardly makes use of any of its issuing powers. However it must be pointed out, that by the monthly returns published by the National Bank, neither the amount of its visible deposits, which no doubt are very important, nor the amount of the securities which the federal Government holds is known, and that, through the Treasury accounts published annually, we know that they reached very considerable sums as a result of the prosperity of our official finances; for, as it will be seen in its proper place, the Mexican Budgets from the year 1894 were balanced with a surplus instead of the chronic deficits which since the Independence came deepening more and more the gulf of the interior Public Debt. Certainly these by the public numerically unknown factors regulated the conduct of the National Bank, making it watch with special care its cash reserves, which nevertheless fell rather abruptly in the course of the second half year of 1897, having afterwards but few fluctuations.

3<sup>rd</sup> The lines which represent the loans on securities, though always rising, are almost parallel, showing, that in this line of business, taken all Banks together, hardly equalize the bulk of those made alone by the National Bank.

It seems licit to deduct from these observations, that the public opinion, with regard to the soundness of the first of our financial institutions, is not void of reason, and under the protection of which the confidence in the Bank Note has taken its rise, and cleverly taken advantage of by the similar new institutions of the States, beneficial to general progress.

And in uniting ourselves chiefly to these, how has the liberal system of legislation to be judged under the protection of which they have grown and developed themselves in the short space of a few years? It is a fact which we have already stated, that since 1884 we have not suffered from any banking crisis, though posterior times have not all been of prosperity; however, the conservative spirits ask themselves if our State Banks, developing its circulation and loan transactions as much as they have done, will be sufficiently strong to resist one of those disastrous epochs of economic crisis, which we fortunately have not yet suffered in the course of our quiet progress, but which on the least day thought of may present itself, as it has happened to all nations and to which danger we are exposed through manifold reasons of public order, and especially on account of the unsteady and unstable basis on which our monetary circulation rests. In other terms: shall we resist the storm if it be strong? Let us hope so; and we expect it to be so, relying on the prudence, wisdom, the traditional solidity of our business men and in the intelligent watchfulness of the authorities charged to watch over the fulfillment of the statutes of our banking law.

### BALANCES OF THE BANKS

31<sup>st</sup> OF DECEMBER 1900  
\$ 262,894,999'49





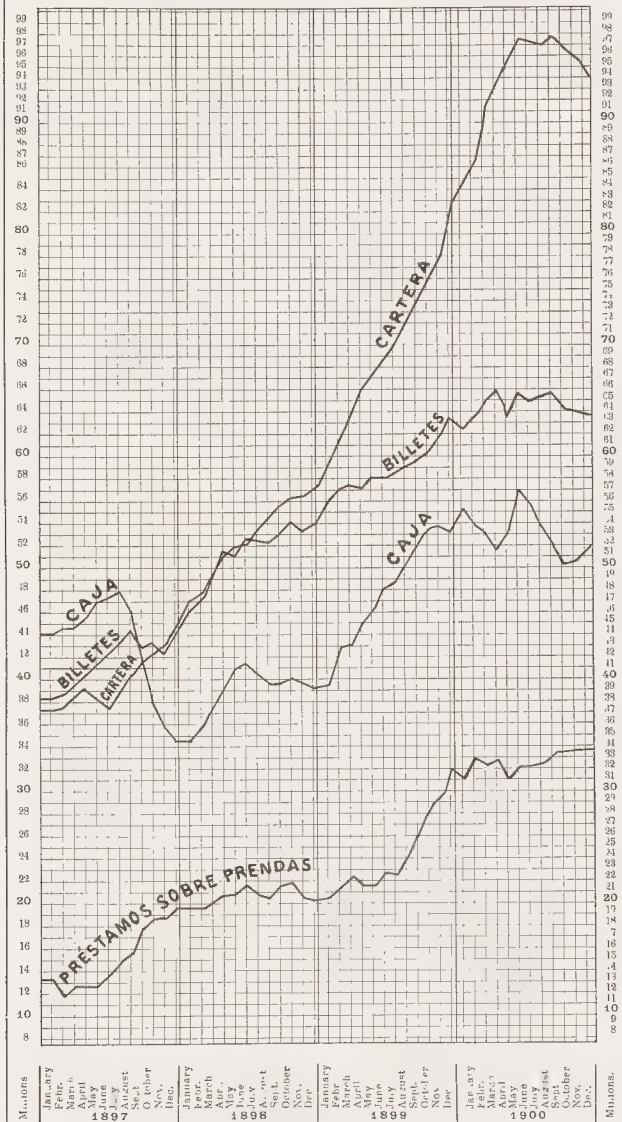
## GENERAL STATE OF THE BANKS ESTABLISHED IN THE REPUBLIC

ACCORDING TO THEIR BALANCES OF THE 31<sup>ST</sup> OF DECEMBER 1901

## ASSETS

Number	BANKS	CASH RESERVES				TOTAL		Holdings of securities		Loans on securities		Loans on mortgages		Loans with guarantee of property		Government of immediate realization		Debtors accounts		Immovables		TOTAL ASSETS	
		Coin and bullion		Notes and other banks		Pesos	Cs.	Pesos	Cs.	Pesos	Cs.	Pesos	Cs.	Pesos	Cs.	Pesos	Cs.	Pesos	Cs.	Pesos	Cs.	TOTAL ASSETS	Pesos
		Pesos	Cs.	Pesos	Cs.																		
1	National Ban. of Mexico . . . . .	—	—	1,715,830	00	21,835,549	67	23,551,379	34	19,186,706	07	—	—	—	—	—	—	27,387,592	38	511,494	78	56,915,066	81
2	London and Mexico Bank . . . . .	—	—	15,485,362	62	1,423,805	00	16,909,167	62	84,312,139	45	—	—	3,378,506	99	—	—	5,788,926	21	314,024	17	97,397,442	81
3	International and Mortgage Bank . . . . .	1,500,000	00	902,698	75	576,835	00	779,533	75	718,033	83	307,036	00	10,359,835	63	—	—	3,355,981	81	273,121	65	17,187,435	70
4	Mining Bank of Chihuahua . . . . .	—	—	1,783,896	54	25,231	00	1,809,037	24	4,941,756	12	715,495	59	389,787	65	915,410	00	1,888,716	11	51,228	44	9,546,430	82
5	Yucatan Bank . . . . .	—	—	3,350,536	41	98,848	00	3,251,688	41	4,919,278	31	—	—	—	—	—	—	1,623,854	58	35,453	25	14,759,580	41
6	Mercantile Bank of Yucatan . . . . .	—	—	1,306,748	90	278,692	00	1,585,440	90	78,704	58	—	—	—	—	—	—	637,985	47	—	—	4,439,198	85
7	Bank of Durango . . . . .	—	—	384,876	20	27,978	00	412,854	20	1,392,318	13	53,411	12	148,943	10	—	—	577,214	95	64,439	65	4,485,747	89
8	Bank of Nuevo Leon . . . . .	—	—	606,025	49	88,227	00	694,252	49	2,250,409	87	194,312	66	29,360	00	—	—	1,968,733	75	12,000	00	4,889,114	32
9	Bank of Zacatecas . . . . .	—	—	424,951	81	—	—	424,951	81	2,080,838	23	—	—	—	—	—	—	1,438,018	58	22,000	00	4,895,865	55
10	Bank of the State of Mexico . . . . .	—	—	710,441	97	—	—	710,441	97	2,114,231	89	121,979	47	23,500	00	—	—	2,551,462	70	168,169	98	5,382,518	96
11	Bank of Comahu . . . . .	—	—	999,848	01	43,075	00	1,042,923	01	2,079,757	43	120,065	33	59,400	50	—	—	1,484,432	60	5,000	00	6,683,515	76
12	Bank of San Luis Potosi . . . . .	275,000	00	997,991	46	39,275	00	1,036,266	46	3,059,492	20	435,494	50	—	—	373,840	00	2,903,335	40	62,157	99	5,082,959	16
13	Bank of Sonora . . . . .	250,000	00	1,105,912	33	96,775	00	1,132,717	33	444,564	41	17,800	00	—	—	—	—	1,337,574	83	3,302,248	65	386,895	59
14	Western Bank of Mexico . . . . .	—	—	738,351	14	34,889	00	773,240	14	940,548	83	173,773	01	—	—	106,740	00	2,597,891	69	—	—	4,232,166	67
15	Mercantile Bank of Veracruz . . . . .	—	—	1,212,796	40	100,072	00	1,312,868	50	3,551,485	20	—	—	—	—	618,407	16	301,680	70	—	—	6,014,442	65
16	Bank of Jalisco . . . . .	25,000	00	1,165,108	05	6,332	00	1,171,440	05	2,672,167	18	192,342	95	124,900	00	210,881	30	1,077,272	18	81,400	63	5,787,493	40
17	Mexican Central Bank . . . . .	—	—	1,650,053	54	846,367	00	2,496,420	54	6,706,846	64	—	—	—	—	—	—	3,302,248	65	386,895	59	16,636,881	59
18	Mercantile Bank of Monterrey . . . . .	250,000	00	460,536	79	98,193	00	558,729	79	2,416,893	73	144,014	68	—	—	—	—	788,831	10	76,153	08	5,001,922	28
19	Orasabit Bank of Mexico . . . . .	—	—	1,187,259	70	224,136	00	1,408,395	70	4,945,191	71	360,416	00	—	—	—	—	1,504,021	44	23,255	28	8,301,251	16
20	Refineria Bank of Campeche . . . . .	30,000	00	3,792	41	1,540	00	3,802	41	421,162	35	47,382	73	—	—	12,669	23	6,556	83	—	—	583,073	57
21	Bank of Guaymas . . . . .	125,000	00	320,043	17	19,403	00	339,446	17	1,832,687	79	34,715	10	—	—	112,176	96	666,433	45	—	—	3,311,489	47
22	Agricultural and Mortgage Bank . . . . .	1,000,000	00	3,577	66	—	—	3,577	66	80,374	80	380,67	25	—	—	—	—	88,107	49	—	—	2,345,727	10
23	Bank of Tabasco . . . . .	500,000	00	311,483	21	8,676	00	320,153	21	717,783	12	77,353	63	18,916	00	—	—	70,642	68	—	—	1,705,369	45
24	Refineria Bank of Michoacan . . . . .	72,500	00	15,013	57	—	—	15,013	57	224,726	01	30,354	55	—	—	—	—	34,462	00	—	—	416,712	03
		5,213,800	00	53,895,862	96	—	—	59,515,336	96	100,006,040	30	38,782,357	47	11,406,699	89	3,778,291	64	50,419,347	56	2,216,829	69	289,381,196	84

**MOVEMENT in the Cash Account, Securities, Notes in circulation and Loans on Securities, of all the Banks of the Republic during the years from 1897 to 1900.**



In conclusion we would like to give some idea, though it were only approximately, on the cash amount existing in the Republic. Unfortunately, our deficient and imperfect statistics do not furnish the elements for resolving completely this problem, but we do know, that from the fiscal year of 1892-93 to 1900-901 the following sums in Mexican pesos have been coined and exported:

## COINAGE AND EXPORTATION OF MEXICAN PESOS

FISCAL YEARS	COINAGE	EXPORTATION	DIFFERENCES
1892 to 1893	\$ 27,169.876	\$ 27,170.865	\$ 989
1893 to 1894	» 30,185.612	» 17,386.338	» 12,799.274
1894 to 1895	» 27,628.981	» 17,077.119	» 10,551.862
1895 to 1896	» 22,634.788	» 20,377.663	» 2,257.125
1896 to 1897	» 19,296.009	» 14,578.958	» 4,717.051
1897 to 1898	» 21,427.057	» 18,214.989	» 3,212.068
1898 to 1899	» 20,184.117	» 14,116.935	» 6,067.182
1899 to 1900	» 18,102.630	» 10,872.874	» 7,229.756
1900 to 1901	» 21,875.581	» 16,132.879	» 5,742.702
TOTAL AMOUNTS . .	\$ 208,504.651	\$ 155,928.620	\$ 52,576.031

On the other hand, the banking statistics put us in the position of knowing what the stock in specie and the circulation of the Banks was:

On the 30 <sup>th</sup> of June 1893	Cash	\$ 17,940.000	Circulation	\$ 25,270.000
And on the 30 <sup>th</sup> of June 1901	»	» 56,119.000	»	» 63,629.000
Giving an increase of:	Cash	\$ 38,179.000	Circulation	\$ 38,359.000

Therefore the Banks, jointly, have done no more than to return in notes to the circulation that which they have accumulated in their chests in specie.

Comparing now these figures with those of the preceding diagram, we shall have:

Increase of the money existing in the country through the differences between the coinage and exportation . . . . .	\$ 52,576.000
Taking away from this sum the cash increase had in the Banks. . . . .	» 38,179.000
Leaves a difference or increase in the hands of the public . . . . .	\$ 14,397.000
Adding the increase had in the circulation of notes . . . . .	» 38,359.000
Leaves a total increase in circulatory wealth of . . . . .	\$ 52,756.000
A sum distributed in nine years, represents a yearly increment of nearly	\$ 6,000.000.

Up to what point could this conclusion be generalized, fixed upon the basis of only nine years' statistics, and since when have we commenced to increase our monetary stock? It would be impossible to say so; and if we have submitted the preceding numbers (1), it has only been to affirm a fact which perhaps can be utilized in the course of years.

## CONCLUSION

It is this, dear reader, what we have known and could tell you on the Mexican commercial evolution since the primitive times to our present days. It was necessary to pass over many things in silence, either through the peculiar disposition of this work, or because the space has not been sufficiently wide. As to other deficiencies (certainly the most), it will be the fault of the author and as such he recognizes it without false modesty, having only to make known, so that the reader may pardon them, that his

(1) We owe them to Mr. Damian Flores, the diligent chief of the 4<sup>th</sup> section in the Secretary's office of Finance.

## LIABILITIES

BANKS	The Bank's capital	Notes in circulation	Mortgage Bonds in circulation	Cash Bonds in circulation	Deposits and current accounts payable at sight	Other deposits	Creditors' accounts	Reserve funds	Provision funds	TOTAL	Number in order
	Pesos	Pesos	Pesos	Pesos	Pesos	Pesos	Pesos	Pesos	Pesos	Pesos	
1 National Bank of Mexico . . . . .	20,000,000 00	25,722,944 00	—	—	—	6,715,566 1/2	41,036,955 31	3,776,004 33	3,074,000 00	96,915,045 84	1
2 London and Mexico Bank . . . . .	15,000,000 00	16,085,323 00	—	—	—	—	11,824,735 79	4,740,000 00	—	57,397,142 81	2
3 International and Mortgage Bank . . . . .	5,000,000 00	—	9,616,700 00	—	342,815 96	—	2,121,419 71	131,500 90	—	17,187,435 79	3
4 Mining Bank of Chihuahua . . . . .	1,000,000 00	2,738,896 00	—	—	89,349 61	—	2,111,634 46	791,000 35	45,000 00	9,846,430 82	4
5 Western Bank . . . . .	4,500,000 00	5,838,682 00	—	—	92,058 36	—	3,637,054 73	391,911 71	330,553 59	14,779,530 41	5
6 Mercantile Bank of Yucatan . . . . .	1,500,000 00	1,721,689 00	—	—	8,750 00	—	1,048,854 36	137,749 01	62,126 80	4,139,188 85	6
7 Bank of Durango . . . . .	1,000,000 00	623,625 00	—	—	65,178 89	—	1,067,915 32	69,467 10	—	2,796,195 11	7
8 Bank of Nuevo Leon . . . . .	1,500,000 00	1,761,112 00	—	—	93,889 12	—	1,044,992 90	93,146 05	63,847 82	4,485,747 89	8
9 Bank of Zacatecas . . . . .	1,000,000 00	619,730 00	—	—	95,586 18	—	3,013,328 11	12,519 09	45,000 00	4,898,114 32	9
10 Bank of the State of Mexico . . . . .	1,500,000 00	1,415,280 00	—	—	63,820 11	—	1,662,130 40	34,788 01	—	4,565,568 55	10
11 Bank of Coahuila . . . . .	1,600,000 00	1,614,735 00	—	—	12,331 58	—	2,710,749 02	38,100 03	9,821 12	5,982,818 96	11
12 Bank of San Luis Potosi . . . . .	1,402,000 00	1,880,015 00	—	—	1,397 22	—	3,639,442 00	23,229 84	3,557 63	6,068,545 70	12
13 Bank of Sonora . . . . .	1,000,000 00	1,872,680 00	—	—	96,342 15	—	2,044,222 72	63,543 11	4,284 18	5,035,969 16	13
14 Western Bank of Mexico . . . . .	1,500,000 00	790,495 00	—	—	75,699 57	—	1,872,180 64	8,309 46	5,300 00	4,252,166 67	14
15 Mercantile Bank of Veracruz . . . . .	2,000,000 00	2,840,690 00	—	—	67,742 69	—	1,643,869 18	56,751 38	—	6,014,442 65	15
16 Bank of Jalisco . . . . .	1,500,000 00	1,847,535 00	—	—	39,162 66	—	2,333,338 68	43,067 06	2,500 00	5,787,493 40	16
17 Mexican Central Bank . . . . .	7,000,000 00	—	—	1,554,100 00	3,077,962 05	691,313 72	2,181,431 11	107,551 71	—	10,658,861 59	17
18 Mercantile Bank of Monterrey . . . . .	2,500,000 00	860,460 00	—	—	16,732 82	—	1,612,832 80	11,897 6	—	5,044,923 8	18
19 Oriental Bank of Mexico . . . . .	3,000,000 00	2,009,320 00	—	—	297,554 16	—	2,881,407 400	10,000 00	—	8,291,751 16	19
20 Refectory Bank of Campeche . . . . .	300,000 00	—	—	195,300 00	400 00	—	86,729 23	644 34	—	583,073 57	20
21 Bank of Guanajuato . . . . .	500,000 00	984,910 00	—	—	158 00	—	1,936,621 47	—	—	3,311,469 47	21
22 Agricultural and Mortgage Bank . . . . .	2,000,000 00	—	—	—	—	—	343,727 10	—	—	2,342,727 10	22
23 Bank of Tabasco . . . . .	1,000,000 00	520,065 00	—	—	42,303 42	—	927,001 03	—	—	1,795,369 45	23
24 Refectory Bank of Michoacan . . . . .	300,000 00	—	—	32,969 00	5,562 43	—	38,549 60	—	—	416,712 03	24
	80,300,000 00	71,827,698 30	9,616,700 00	1,862,300 00	9,348,274 71	7,407,379 71	98,422,421 90	10,025,502 71	4,013,391 28	289,384,196 84	





labor has been particularly difficult through manifold circumstances which he will call to witness as an attenuation.

The first of them is the entire absence of any writings on Mexican commerce posterior to the year 1853 in which the noted statist Michael Lerdo de Tejada published his valuable monograph, which we several times mentioned; our labor has therefore been obliged to take its base from the direct study of the documents which we have been able to obtain and from our not very well made collections of laws; a system which, if it offers the advantage of authenticity of the information, exposes the writer in exchange to the danger of not having made a complete study, for the reason of not having known all the documents or laws relating to the matter on which he was occupied.

On the other side, the deplorable want of statistics and of many other dates on points of the greatest importance, puts the author in the indeclinable necessity of adhering to the personal and direct knowledge of the facts on which he writes and which he may have been able to acquire, being the origin of the errors and mistaken valuations.

Finally, a chronicler desirous of forming an exact and closely examined judgment on the events he relates, assumes always a difficult part, if he does not wish to induce the others to fall in the same error; but the difficulty rises from point to point if contemporary facts are treated and in which we have more or less, near or far, been mixed up. Then one has to resign oneself, as the author did in the preceding pages, to transmit one's own impressions, remembering these beautiful and profound words of our noted compatriot Dr. Joseph Maria Lewis Mora:

«To pretend to exact impartiality of a contemporary writer is the greatest extravagance: no one who finds himself in similar circumstances can count on that gift, as esteemed as it is difficult to obtain. The contemporary history is not, nor can it be any thing else but *the narration of the impressions which things and persons have made on the writer*; and when that narration is true, that is to say, when the impressions received, such as they have made themselves felt, transfer themselves on the paper, the writer, who cannot aspire to the honor of *impartial*, succeeds in obtaining the reputation of *sincere*, will have done his duty, if not with regard to what he owes but at least with regard to what he can, towards his century and towards posterity. Well convinced of these realities, we have tried to adjust our narration to the truth of facts, such as it seems to us to have them seen and to the influence of its causes, such as we understood it, trying that each one remains responsible of its acts for good or for bad, not for that written about it, but for that which they may be themselves or for the opinion that the reader may form, according to his political principles, to his party engagement, or, if it be so, to his personal sympathies or antipathies.»

Paul Macedo.

Mexico, 31<sup>st</sup> of August 1902.

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## CHAPTER FIRST

GEOGRAPHICAL CONDITIONS OF THE MEXICAN TERRITORY. ROADWAYS AT THE COLONIAL EPOCH  
AND AFTER THE INDEPENDENCE. PRESENT STATE ON THIS SUBJECT

**W**E suppose the reader to be familiar with the physical conditions of our territory and shall therefore limit ourselves to call them briefly to recollection.

Our portion of North America might not improperly be compared with a cornucopia (generally called *the horn of plenty*), which in its broadest part looks towards the North and the curvature of which turns to the East, where its point forms the Yucatecan peninsula. In the North it is contiguous to the United States of America and in the South to the Central-American Republic of Guatemala and the English Colony of Belize; in the East, Mexico is washed by the Atlantic and in the West by the Pacific Ocean. The mountain chain, which in South-America forms the lofty Andes, in Central-America changes essentially volcanic and in the Isthmus of Tehuantepec sinks to a considerable extent, rises again in Oaxaca, where it forms an enormous and intricate bulk, dividing itself afterwards in two parts and running parallel with both of our sea-coasts, constitutes two mighty and elevated *main mountain ridges*, the oriental and the occidental, between which the Altiplain or Central Tableland is formed, which again is frequently crossed by a regular system of mountains sometimes independent and isolated, with frequency united to the two principal ridges, running from South to North, in the manner of branches. This tableland or altiplain reaches its greatest altitude in the valley of Mexico, descending slowly and gradually towards the North, where it remains, so to say, open: not so on all the other courses, which are all closed in by the mountain chains already alluded to, forming more or less extensive valleys but out of which one cannot go without ascending.

Besides the two oriental and occidental mountain ridges, with few exceptions, especially on the Pacific, do not reach as far as the sea with their range of hills, nor do they form deep and sheltered creeks or gulfs, but the coasts, sometimes of rather a broad border, are generally flat and do very little rise above the level of the sea. Finally, the orographic system, which advances from South to North, is not formed by one alone, but by various mountainous chains, marching parallel and leaving between them narrow valleys or deep clefts, through which the waters flow, forming rapids; this phenomenon is more pronounced in the western main mountain ridge than any where else.

What has been said will suffice to form an opinion of the immense amount of difficulties our territory presents to the maritime and terrestrial communications, the extension of which nearly reaches 2,000,000 square kilometers.

On the Atlantic side, that is the one which puts us in contact with old and civilized Europe, we have no natural port, and there, where the rivers impetuously descent from the mountains and flow into the sea, sand banks or bars are formed rendering communication with the interior very difficult, if not totally impeding it, at least to the foot of the mountain chain. It is only on the Pacific coast that we have some deep and sheltered anchoring ground, as, for instance, Guaymas, Mazatlan, Manzanillo, Acapulco and others of less importance; but already at Salina Cruz, an important point, as it corresponds with the depression of the Isthmus of Tehuantepec, the coasts commence being again open and low, making therefore access difficult.

With regard to navigable rivers, we have none at all, for with the exception of a few, which on the side of the Mexican Gulf allow the traffic of ships of small draught, the strong declivity of the waters rushing down from the mountains and the frequency with which important water-falls and cataracts intercept them, makes them unsuitable for regular navigation to any extent worth mentioning.



## PART FIFTH

### COMMUNICATIONS AND PUBLIC WORKS



merce are: 1<sup>st</sup>, the one from Mexico to Veracruz via Puebla and Jalapa; 2<sup>nd</sup>, from Mexico to Acapulco via Chilpancingo; 3<sup>rd</sup>, from Mexico to Guatemala via Oaxaca, and 4<sup>th</sup>, from Mexico to Durango and Santa Fe de Nuevo Mexico, commonly called *the inland road*; the roads leading from Mexico either to San Luis Potosí and to Monterrey, or to Valladolid and to Guadalajara, may be considered as branches from the main road of the *inland Provinces*. A glance at the physical constitution of the country will show, that these roads will never be able to be substituted in place of natural or artificial navigation however the progress of civilization may be one day, such as Russia from St. Petersburg to the most interior part of Siberia presents them.

»The roads from Mexico run through the plain or Central Tableland itself, from Oaxaca to Santa Fe, or run from this plain to the coast. The first ones keep up the communication between the towns situated on the ridge of the mountains, the coldest and most populated region of the dominion; the second are destined for communication with foreign lands, to maintain the connection between the interior and the ports of Veracruz and Acapulco, besides facilitating the exchange of produce between the Central Tableland and the burning plains of the coast. The roads of the Tableland, which lead from the SSE. to the NNO., and which, taking the configuration of the country in consideration, might be called *longitudinal*, are of very easy preservation. From Mexico to Santa Fe, the road can be used for vehicles, for a longer distance than the mountain chain of the Alps, if these were prolonged without interruption from Geneva to the coasts of the Black Sea. In fact, on the central plain one may travel in all directions in vehicles with four wheels from the Capital to Guanajuato, Durango, Chihuahua, Valladolid, Guadalajara and Perote; but on account of the present bad state of the roads, no conveyance for the transport of goods has been fixed, giving the preference to beasts of burden, so that thousands of horses and mules in large droves cover the roads of Mexico. A great number of half-casts (*mestees*) and Indians are employed in conducting the caravans, preferring this idle life to any other sedentary occupation; they pass the nights in the open air or in *tambos* (inns) or *conjointly in houses*, built in the middle of the villages for the convenience of travellers; the mules and horses are grazing freely on the large plains, but when through the great droughts the grass disappears, unripe maize (*zacate*) or Indian corn is given to them (1).

»The roads leading from the interior Tableland to the coast, and which I call transversal, are the most toilsome, deserving principally the attention of the Government. Belonging to this kind of roads, are those from Mexico to Veracruz and Acapulco, from Zacatecas to Nuevo Santander, from Guadalajara to San Blas, from Valladolid to the port of Colima, and from Durango to Mazatlan, passing by the western branch of the main mountain ridge. Consequently, the roads running from the Capital to the ports of Veracruz and Acapulco are the most frequented. The value of the precious metals, agricultural produce and the goods from Europe and Asia passing over these two conducts, amounts to 64 millions hard-dollars. These treasures pass over a road resembling the one leading from Airolo to the Hospice of Saint Gothard. The Veracruz road from the village of Las Vigas to El Encero is very often only a narrow and winding foot path and hardly will an other so toilsome a road be found in the whole of America, if we take exception to the one from Honda to Santa Fe de Bogotá and from Guayaquil to Quito over which the goods from Europe pass.

»The products from the Philippine Islands and Peru arrive in Mexico by way of Acapulco which runs along an edge of the mountain ridge of a less marked declivity than the one from the Capital to the

(1) An other prove of the little use made of ordinary and long narrow carts as a means of transport, can be seen in article 65 of the Ordinance of 1786 for Intendants, in which we read: «And supposing that through a perceptible and prejudicial abandoning, the use of ordinary and long narrow carts in New Spain happen to have died out which were very common, facilitating at a moderate price the transport of effects, goods and produce, the Intendants shall most attentively try to encourage, that the use of carts in the provinces under his charge be instituted, watching with equal care, that the inferior judges also apply themselves to this same object, furthering it with the farmers and neighbours in his jurisdiction.»

See also that said by the Presbyter Joseph M. Lewis Mora: *México y sus revoluciones*, vol. I, page 56.

The terrestrial traffic, directed from the centre of the territory to the coast, or vice versa, also offers special difficulties: there, where various mountain chains do not exist, making out of any beaten path a continuous series of acclivities and declivities, as it particularly happens in the West and South, the elevation is concentrated in a very reduced space or horizontal distance, making therefore the declivities tremendous. An example will suffice to explain this conception. Between the Capital of the Republic and the port of Veracruz, taking the Mexican Railway line, the horizontal distance measures 424 kilometers and the elevation of the ground 2,240 meters, which, if the declivity were uniform, would hardly raise it to a little more than  $\frac{1}{2}$  per 100. But such is not the case: from Mexico to Esperanza, a distance of 245 kilometers, one has to ascend something more than 200 meters in order to reach the ridge of mountains and from there it is necessary to descend from a height of 1,991 meters in a short space of 93 kilometers distancing between Esperanza and the station of Atoyac. The remaining 461 meters of elevation from that place to Veracruz is reached in a longitudinal line of 86 kilometers. It is superfluous to observe, that longitudinal distances of a railroad already built, would be very much shortened if we were to take them in a straight line from Mexico to Veracruz, which in this manner are hardly 300 kilometers separated from each other.

And the same thing happens, whatever the chosen line may be, to descend from the Central Tableland, as the reader will be able to observe by the divers sections of our territory, the drawing of which he will find inserted in these pages (1), that the descent to the coasts of the Atlantic presents analogous obstacles and which are still greater to those of the Pacific, because various mountain chains are interposed between the latter and the Altiplain, which, as we have already said, make our roads an uninterrupted series of acclivities and declivities, at the end of which the descent is always extremely rapid and has to be accomplished on the flanks of craggy ridges of mountains, reaching up to a considerable height.

With regard to the roads running from the South to the North across the interior of the country, joining its divers populated centres, they are also frequently intercepted by the mountains, interposing in the Central Tableland; the vertical sections of the Central, National and Southern Mexican Railroads, which are also found in these pages, put it clearly in view, showing, that extensive open plains are only met with in the northern part, that is to say, in the broadest of our territory, which is the least populated, no doubt due to the unfruitfulness, irremediable up to now, to which, through the want of rain and the ingrateful nature of the soil, it is condemned.

\* \* \*

As we have now given the physical conditions of our territory, and besides bearing in mind, that its primitive inhabitants were completely unacquainted with beasts of burden, horses and mules, it is easy to understand that the Spanish conquerors did not find, in the manner of ways, anything but paths or tracks, more or less narrow, by which the traffic was accomplished on foot. Also remembering, that the income of the colony derived for local applications was never abundant, it is also easy to explain why the vice-regal Government had not paid any attention to the opening and preservation of roads but only of those most indispensable, because they constituted the principal arteries of the traffic and which baron Alexander de Humboldt describes in the following manner:

»As all communications with Europe and Asia are only made by the two ports of Veracruz and Acapulco, respectively, all objects of importation pass necessarily through the Capital, which for this reason has been made the central point of the interior commerce. The City of Mexico, situated on the ridge of the mountain chain, commands, so to say, the two seas, and in a direct line distances 69 leagues from Veracruz, 66 from Acapulco, 79 from Oaxaca and 440 from Santa Fe of New Mexico. From this position of the Capital it follows, that the most frequented and most important ways of communication to com-

(1) See also those which will be found on page 11, vol. I, tome I.

convinced of its veracity. In drawing the line, the fissures in the mountains were not taken advantage of, which would have saved many very costly diggings or cuttings unnecessarily made in these, and which must therefore be considered as dead works; neither were they taken in consideration in adopting a straight line, for with the same amount of work, taken by the northern brow of the Highland of Telapón, a saving of several leagues would have been effected to get to Rio-Frio. Two cuttings were invariably made so as to open a passage and to form a level in the declivity of the mountains, one perpendicular and the other horizontal, leaving the route between a deep ravine which in some places exceeds eighty yards in height, from which, trees, rocks and large masses of slippery materials forming the crust or covering of the mountains get loose, especially during the rainy season, with great risk to travellers. This happening, it is not seldom, that in many places the road is stopped up in a few hours, which it took years to open and which it may be necessary not to repair, but frequently to open it again. From Puebla, the road of Veracruz divides into two branches: the one that goes via Tepeyualco, Perote and Jalapa is the work of the Tribunal of Commerce of Veracruz and the one passing via Orizaba is that of Mexico. A rivalry existing between these two powerful bodies of merchants, who, previous to the Independence, contended for the influence which wealth gives to public matters, was the cause of giving existence to these roadways: the merchants of Mexico maintained the impossibility of making the deep descent, on which the bridge called del Rey (the King's) was constructed, practicable, a necessary point of transit to carry the road via Jalapa; those of Veracruz maintained, that the very rapid declivity of the summits of Aculcingo could not be made serviceable for vehicles, without which the road ought never to be carried via Orizaba. Both difficulties, which really were justly reputed as insurmountable, were at last overcome at the expense of constancy and money: the bridge was built and the summits were made practicable, resulting from this emulation one of the greatest and most important services that could have been rendered to commerce and to Mexican communications.

»Neither of the two roads offered any great difficulty from Puebla to Perote and San Andrés: the plain, which from the foot of the volcanos of Mexico continues to the places mentioned, is uniform, barren and covered with sand, fragments of pumice-stone and saline efflorescencies. The greatest difficulties that had to be overcome, opposed by the physical structure of the soil, were those between Perote and Veracruz; however the labor has been crowned with success by forming a broad, solid high-road of a very gentle declivity, not inferior to any of the famous works which in its class have made the admiration of Europe. It is true that its line is longer and more prolonged than the one of the old road, for the reason that it has been endeavored to avoid in it carefully the rapid ascents and descents; but this very reason makes it more practicable and serviceable for carts, affording in this manner the conveyance of produce in carts with little or no risk and at less cost. The leveling of the Cuesta del Soldado (the Soldier's back) and the building of the Puente del Rey (the King's bridge), will make the name of the Tribunal of Commerce of Veracruz eternal and memorable, as these two sumptuous works have greatly facilitated the communications between Europe and Mexico.

»The road from Puebla and Veracruz via Orizaba is the one less frequented; it passes through Nopalucan, San Andrés, Orizaba and Córdoba. The group of mountains uniting the peak of Orizaba and Cofre de Perote make it almost impossible to trace a road in a straight line from the Capital of the Republic to the port of Veracruz; on the one of Jalapa one has to go round the great mountain of Cofre on his northern side, and on the other round the Pico on his southern side; one of these roads branches off to the North and the other to the South, the circuit of the one of Orizaba being greater. On this last one are the famous cuttings made on the summit of Aculcingo, the only way possible on such a rapid declivity, that is to say, by the descending slabs placed close to each other in form of winding stairs. The Tribunal of Commerce of Mexico will make its name immortal by this work, for if it has proved not to be so useful as that of Veracruz, it depended on casual circumstances which will shortly be removed and which by no means lessen the merit of the service lent to the public in such a sublime enterprise.

»After these famous constructions, worthy of a rich and industrious nation, there is no other, deser-



port of Veracruz. A glance at the sections of the Mexican Atlas, will suffice to prove the exactness of this assertion. On the road of Europe (as we have already observed), i. e. from the valley of Mexico to beyond Perote in the central plain, one is 2,300 meters above the level of the sea; from this last place, one descends with extreme rapidity to the ravine of the *Plan del río* to the West of the Rinconada. The contrary happens on the road of Acapulco, called the road of Asia; the descent already commences eight leagues from Mexico, on the southern slope of the basalt mountain of the Guarda. With the exception of the part passing through the forest of Güichilaque, it would not be difficult to open, even without many obstacles, a railroad along this way of communication, because, from Acapulco to the plain of Chilpancingo, it is broad and in rather a good condition; but advancing towards the Capital, especially from Cuernavaca to Güichilaque, and from here to the top of the high mountain, called «la Cruz del Marqués,» it is already narrow and very bad. The difficulties, which mostly paralyze the communications between the Capital and the port of Acapulco, have their origin from the rapid freshets of the rivers Papagallo and Mescala. These torrents, which in times of drought are not 60 meters wide, have a width from 250 to 300 meters in the rainy season. During the time of the great floods, the freights are often detained for 7 or 8 days on the banks of the Papagallo before the muleteers dare to attempt fording it. I have still seen many pieces of pillars made of enormous hewn stones, which were carried away by the current before the arches were finished. In 1803 a new trial to build a large stone bridge over the river Papagallo was projected to be made, for the enterprise of which the Government had destined nearly 100,000 pesos, being of great importance to the commerce of Mexico with the Philippine Islands. The river Mescala, which more to the West takes the name of Zacatula, is almost as dangerous as the Papagallo; I have passed it on a raft or float made of dry wild pumpkins and canes tied to them on the top according to the old Indian fashion; two Indians steering the raft, holding it with one hand and swimming with the other.»

At the beginning it was the Tribunal of Commerce of Mexico alone (a body formed of merchants in the xviii century) and afterwards in union with the one established in Veracruz, that had charge of these roads, and the money destined to their preservation was derived from the *averta* (a certain duty in the Indian trade laid on merchandise), paid on goods imported, and the proceeds on *tolls*, an impost paid by those using the roads, in accordance to special tariffs. This refers to the principal ways of communication; as to the secondaries, judging by the recommendation contained in article 64 of the Ordinance for Intendants, and by what we have still seen in practice in our days, they were confided to the care of the local authorities, who with pitiable frequency neglected them for want of means, making it necessary for private individuals, who had to use them, to repair them at their own expense.

Thus things were kept up to the end of the xviii century, when for the first time the construction of roads between Mexico and Veracruz was undertaken, on which our illustrious compatriot the Presbyter Mora (1) expresses himself as follows:

«The Spanish Government, during nearly three centuries of its domination, did not attend to the construction of a single roadway, not even from the Capital to the principal ports. At the end of the last century it was seriously thought of making one from Mexico to Veracruz by the Tribunals of Commerce of these cities, and after many years of work, having to overcome great and uncommon obstacles caused on account of the height and rapid descent of the mountains over which the line was traced, two magnificent roads to Veracruz were at last concluded, joining in the town of Puebla, recognizing as the common trunk, the one going from here to Mexico. The cost of the latter exceeds four million pesos, and though the works undertaken and carried out were gigantic, many of them have not the solidity and stability which might be desired, because they were not made with the necessary knowledge of the soil on which they were constructed, though well directed and executed. Whoever may have seen the road which leads through Venta de Córdoba, Rio-Frio and Texmelucan to Puebla, will be

(1) *Mexico y sus revoluciones*, vol. I, page 49.  
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at others, that this branch should be confided to the care of the creditors themselves, without any of the systems giving ever the wished for result to have the roads in a good state of preservation and to duly attend to the creditors of the toll-tax, because the real fact was, that the means devoted for this purpose, were absolutely insufficient. An evident proof from among many others we could cite, is the fact, that in 1856 the toll-tax in the whole of the Republic produced \$ 442,796, from which, after deducting the expenses of Administration, only \$ 316,214 were spend on all the roads of the vast national territory (1).

Let us mention besides, that till 1853, when the Ministry for Public Works was instituted, this branch was in the hands of the Foreign Secretary; and on the other side, bearing in mind the political anarchistic circumstances which formed the permanent state of the country, it is not surprising, that neither were new roads opened nor were the few that existed kept in repair, being proverbial, as much for its frequency as for its sterility, the complaints made by the public and those of the Government on this very important matter. There was an other cause that influenced in producing these results; but as we wish to leave the just responsibility of its interpretation to its highly respected author, let us be allowed to cite the following words of Mr. Mora (2):

«After the Independence, the adopted Government and the connections established through various ports, with entire independence of the Capital, between Mexicans and foreigners, have greatly contributed to the improvement and progress made in the way of communications, and these would have acquired a greater perfection, if the political revolutions, rooted in the country, had not hindered them. Many proposals for the construction and improvement of the principal and cross roads were made by foreign and national capitalists; but the party spirit and the petty ideas, which still to a great extent form the bottom of the Mexican character, are the cause of their remaining unexecuted. The proof of the first is the effort made by the Representatives for Puebla in frustrating a foreign enterprise which had the construction of a straighter road from Mexico to Veracruz for its object and which it was intended to leave direct to Perote, following in many parts the line taken by the old one; any amount and ways of intriguing at last frustrated this plan without any other motive but the one that the line was not traced through Puebla, happening, what has been the case very frequently in the Republic: that the Nation was sacrificed to the interest of one town alone. Of the second, there are innumerable proofs: the toll-tax was to have been converted in a Public Revenue and not as a means for maintaining the roads; it was attempted to impose very onerous conditions on the contractors, who, without leading anything to the principal object, have withdrawn them, for not leaving them at all at liberty to work and to profit. The meddlesome spirit of the Spanish Government, which still is felt in the State and Federal authorities, is the worst of the country's policy, which, for many years, will obstruct the progress in all branches of public prosperity.»

The following picture drawn by Mr. Robles Pezuela, Minister of Public Works of the Empire, in his memorial of 1865 of our calamities on this point, is also graphical, and on this pretence, we take the liberty of putting it before the eyes of the reader (3):

«The Governments of Mexico, succeeding each other conformably, have found the social fabric every day more in ruin and the best materials in veritable decay.

»The legacy left to us by the Spanish Viceroy in respect of the roadways, was of a short duration: those from Veracruz to Mexico and that from Mexico to Toluca, made by the old Tribunals of Commerce with capitals that still weigh on the liabilities of the Nation, and the defects which the necessity, jointly with the individual interest, opened where nature indicated it to be easiest.

»Isolated efforts of a municipality or of some wealthy individual, traced various of those tortuous and inconvenient paths which neglectedness afterwards made partly disappear.

(1) Mr. Emmanuel Siliceo's report, Minister for Public Works in 1857, in which other interesting facts may be consulted and which we are obliged to omit here.

(2) *México y sus revoluciones*, vol. I, page 54.

(3) Memorial of the Minister of Public Works of 1865, page 121.

ving to be mentioned in these lines, but the one on the road from Mexico to Toluca. This one is the work of the Tribunal of Commerce of Mexico and though on a smaller scale, it is subject to the same defects which we have noted in the one of Puebla, observing some in this one which we do not find in the former, for the causeways have a more rapid descent on account of the ground not having been sufficiently lowered, from which it results, that though they are clear and in good condition, the horses and mules drawing the carts get two tired and are two much injured even when the load is of not much weight.»

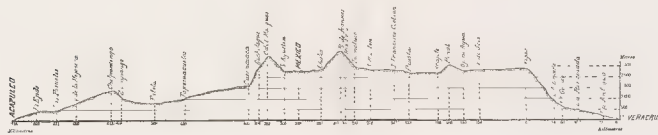
\* \* \*

Once the Independence completed, not much time passed before the abolition of the Tribunals of Commerce were decreed, which during the struggle for emancipation made themselves particularly detestable, because, being composed of the most wealthy Spanish merchants, they had put all the force in their power and influence, especially that of Mexico, at the service of the repression of the movement for liberty;

#### VERTICAL SECTION OF THE ROAD FROM MEXICO TO VERACRUZ AND ACAPULCO

(taken from the work: *Political essay on New Spain*, by BARON ALEXANDER DE HUMBOLDT)

SCALE Vertical — 200,000  
Horizontal — 4,660,000

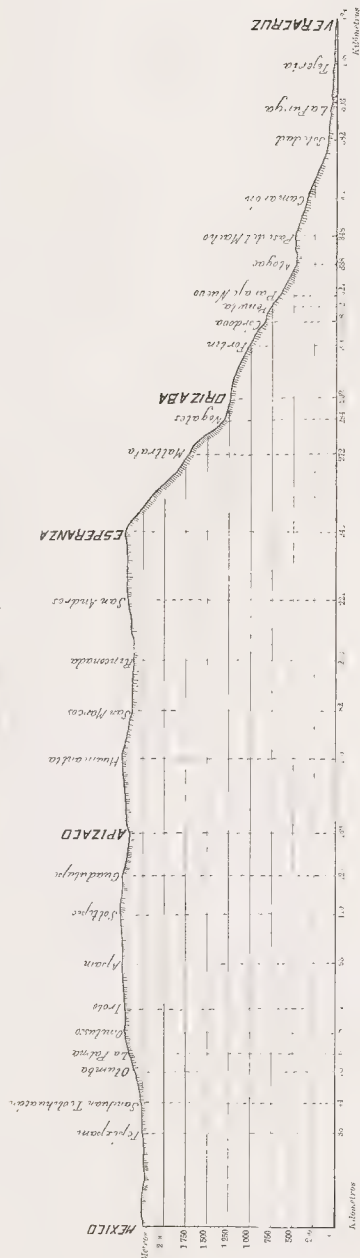


and in fact, on the 16<sup>th</sup> of October of 1824 the constituent Supreme Congress decreed the extinction of those corporations, ordering that the branches of the *avería* and the *toll-tax* should be transferred to the public credit as soon as the offices would be established, the general commissaries collecting in the meantime the stock, books and documents to prevent that those branches remain subject «to the repairing of roads and the payment of interest on the capital,» according to which they were destined, while all the credits against the nation were organized, assuring to the creditors the punctual payment.

Thus commenced the work of Penelope on this matter, which during more than half a century consumed the national strength through motives already investigated and exposed on other pages of this book and which only ceased with the restauration of the Republic in 1867. It would therefore be useless to let the series of laws and contradictory dispositions pass before the reader which on this subject were dictated, as it will be sufficient that we expound in a short synthesis the principal facts connected with it.

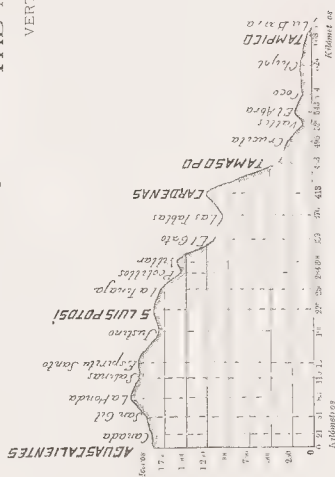
The one which we might qualify as predominant, was the stability of the toll system, an impost which, as we have already said, was collected at the principal ways of communication, and according to fixed tariffs, from vehicles, horses, mules and even pedestrians. The proceeds of this impost, the collectors of which procured to make it more hateful to what it already was through its own nature, if it was not wanted for more pressing necessities of the always empty Public Treasury, or for the heads and leaders of our perpetual revolutions, it was reserved for the repairing and preservation of the roads and to the payment of the interest and the amortization of the capital which private individuals had voluntarily advanced for the purpose of the opening of the most important ways of communication. As a general rule, the distribution of the toll-tax between these two objects was arbitrary, though there was a law which decreed one third of the impost to the first and two thirds for the second; from this resulted a constant state of complaints and clamorings from the tax-payers on one side, who suffered through the bad state of the roads, and from the creditors on the other, whose rights did not receive full satisfaction. Such factors, according to the alternative preponderance in the mind of our Governments, decided upon a contradictory conduct, resulting from it, that some times official Administrations of roads and tolls were instituted, and

THE MEXICAN RAILWAY  
VERTICAL SECTION FROM MEXICO TO VERACRUZ  
Vertical Scale 1:50,000, Horizontal Scale 1:50,000



# APPENDIX TO CHAPTER I ON COMMUNICATIONS

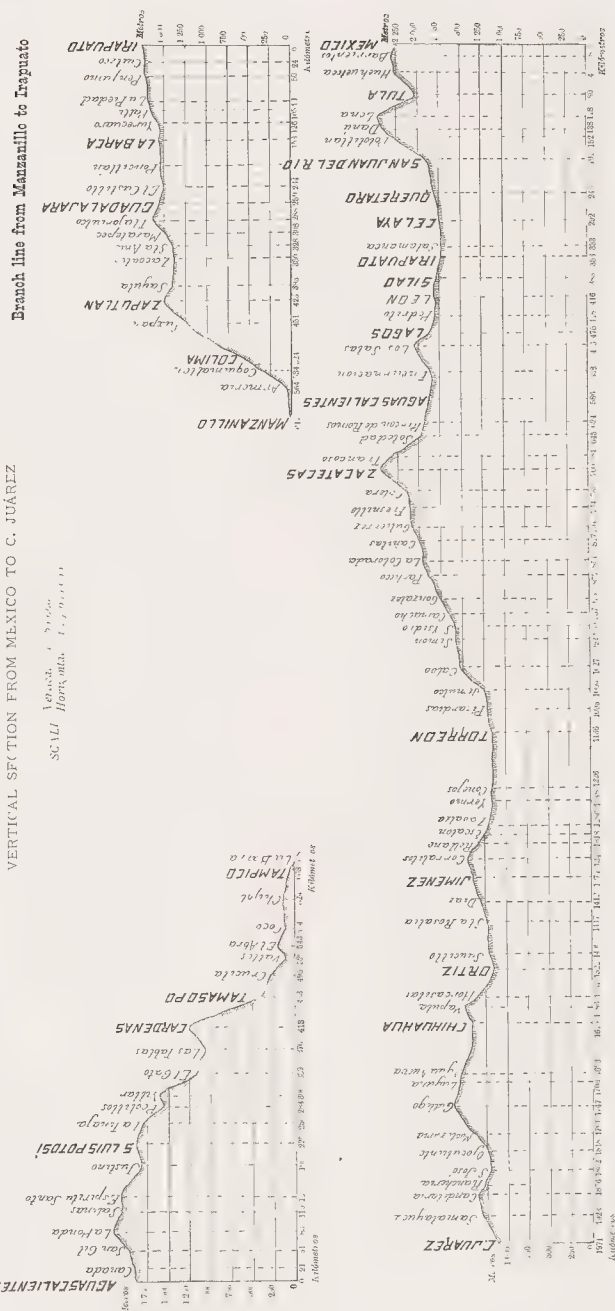
Branch line from Aguascalientes to Tampico



THE MEXICAN CENTRAL RAILWAY

VERTICAL SECTION FROM MEXICO TO C. JUÁREZ

Scale 1:100,000  
Horizontal scale 1:100,000

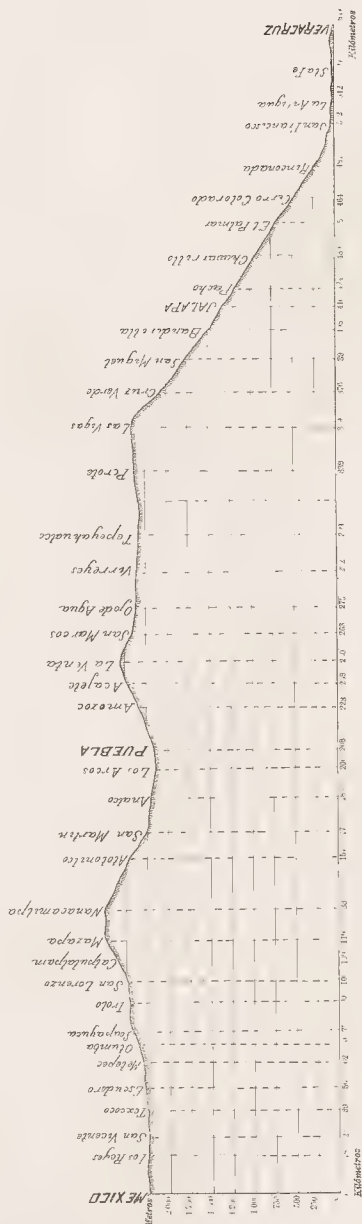




# THE INTEROCEANIC RAILWAY

VERTICAL SECTION FROM MEXICO TO VERACRUZ

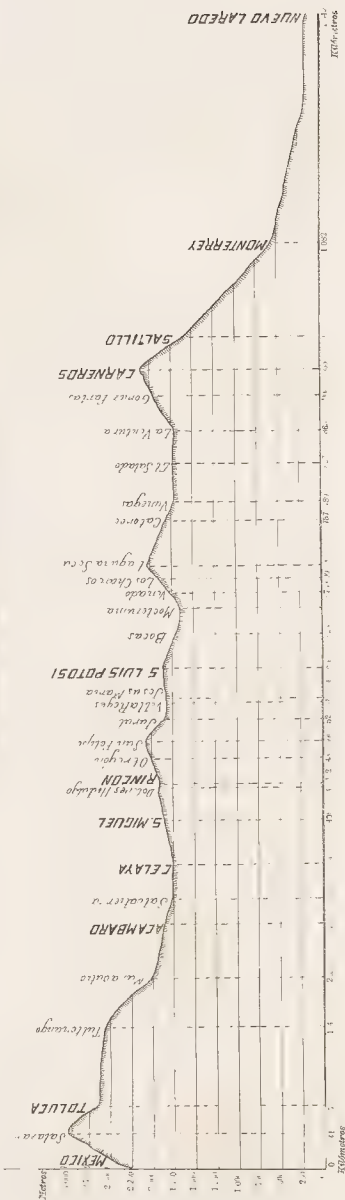
Vertical Scale—1:50,000 — Horizontal Scale—1:2,000,000



# THE MEXICAN NATIONAL RAILWAY

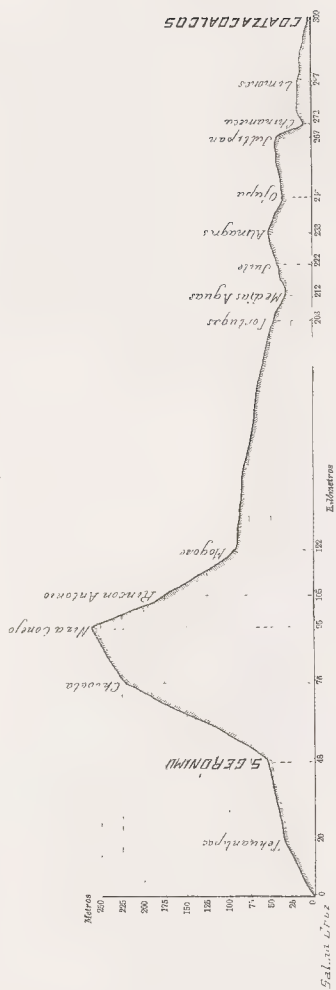
VERTICAL SECTION FROM MEXICO TO NEW LAREDO

Vertical Scale—1:50,000 — Horizontal Scale—1:2,000,000



## VERTICAL SECTION FROM COATZACOALCOS TO SALINA CRUZ

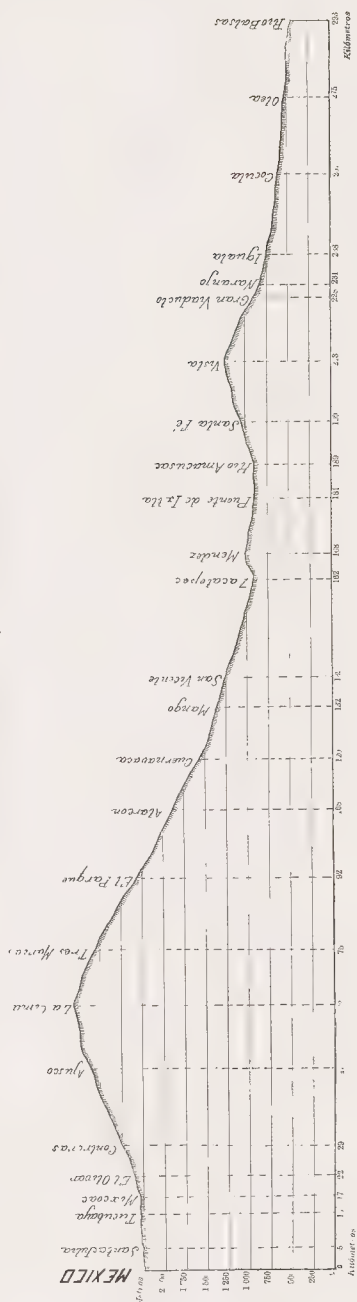
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## THE RAILWAY FROM MEXICO, CUERNAVACA AND PACIFIC

VERTICAL SECTION FROM MEXICO TO RIO DL LAS PALSAS

Vertical Scale: 1" = 20' 0" — Horizontal Scale: 1" = 100' 0"





VOL. II.—PARTS FOURTH AND FIFTH

Public works and communications

Railway map







CONVENTIONAL SIGNS

CAPITAL OF THE REPUBLIC

CAPITAL OF STATE OR TERRITORY

Chief town of District or corresponding Station

Railway Stations

Railways constructed in the Republic

Railways of the United States of the North

International Frontier

Limits of the States of the Republic

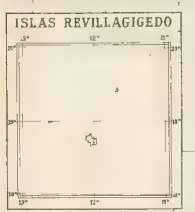
Maritime navigation lines

Lighthouses

RAILWAY MAP  
OF THE  
UNITED STATES OF MEXICO

WITH INDICATION OF THE PRINCIPAL NATIONAL AND FOREIGN MARITIME LINES  
TOUCHING AT THEIR PORTS  
AND OF THE LIGHTHOUSES EXISTING ON THEIR COASTS.

Reduction of Official Map drawn in the Office of Communications and Public Works  
with additions up to April 1899, by order of the Secretary





diminished gradually, always on account of the bad state of the treasury, and that in spite of having been created in 1891 a special Ministry of Communications and Public Works, separating these important branches from the Secretary of Public Instruction, our old ways of communication were falling little by little in a daily greater state of neglectedness, and hardly, if anything at all, though very little, was done so as not to destroy entirely those which communicated with places where the locomotive had not succeeded to penetrate. As to the rest, the causeways near the capital, and among which the one of the Reforma, the best and largest of our city walks, uniting Mexico with the historical and beautiful Park and castle of Chapultepec, which was lately improved and enlarged, have always deserved special attention from our Governments.

This policy of the Federation, which reached its zenith with the law of 12<sup>th</sup> of June 1895, according to which the preservation of the old roads was left in charge of the States, on which some railway line might have already been made or in the future might have been constructed, has a well founded explanation in the enormous sacrifice which the federal treasury has imposed upon itself, alone and without any help from the States, to endow the Nation with a whole system of railways, a sacrifice which, as we shall see hereafter, amounts to many millions of pesos. Unfortunately, our local Governments, in letting themselves be carried away by certain vain propensities, which the national character has not yet shaken off, have not taken advantage of the increase it had in its Revenues to promote and develop so many branches, which, such as public instruction and the opening of roads, are the most proper ones to foment public prosperity and the general welfare, but have rather applied their efforts (and sometimes with painful and even enormous sacrifices) to municipal works in their respective cities, such as sumptuous market places and grand theatres, aspiring to compete with those of the Capital of the Republic and even tried to excel them, without considering, that this kind of improvements are only justified when the first and real social needs are satisfied, as it only enlarges moderately.

This evil, which we point out without any intent to austere critic and only obliged through the exigencies that truth has with the writer who aspires to discharge honestly his duty as a true chronicler, will mend itself little by little, according to how we Mexicans convince ourselves, that a Nation, pretending to occupy a worthy place among those calling themselves civilized, has amidst its highest aims, the one of attending preferentially to satisfy the fundamental needs of the social organism, such as those of circulation, intimately connected with many others, among which those of national defence are not the least. However, with the equilibrium of our federal Budgets and the order which, as its consequence, made it possible to establish in all branches of Administration, gifts, which we must hope will be the symbol of a definite acquisition for the future, the necessity of resolving certain problems, makes itself daily more intensively felt, which, like the one of colonizing our immense territory, that of its irrigation, the one of better and more rationally utilizing the soil to greater advantage and many others, will encourage the national movement of endowing the country with roads, which, simultaneously as arteries of wealth and prosperity, may be powerful auxiliaries and eventually substitutes of our railways, not only in time of peace but also in the unfortunate case of war and internal or external confusions, of which no nation can suppose to be always and for ever exempt.

## CHAPTER II

### THE RAILWAYS

**W**HAT has been said in the preceding chapter explains the imperfection and backwardness in which our interior ways of communication were kept, not only during the colonial epoch but still during many years of our independent life; and judging from informations acquired, for want of a better source, through the testimony of authorized and discreet persons, who are still living and who lived in those

»The aspect, which the territory of the old Hispano-American Colony thus presented, was in no way flattering; but it must be confessed, that in acquiring our glorious Independency, intoxicated with so much good fortune and perhaps badly advised by concealed enemies, we were lead into an intricate labyrinth of political ideas, forgetting that the real instruments of civilization are the shovel and the crowbar, the spade and the hammer.

»Who, and which of those Governments that rose to-day to fall again to-morrow, took upon itself the material improvements? It would then have seemed inopportune and even absurd to present a scheme tending to systematize the reposition and the making of roads, when all the attention and all the treasury were small in order to prepare against and to combat the revolutionists.

»Thus, we hardly note, that during the period from 1821 to 1852 some law, some measure relative to roads was enacted, as a forerunner of the moment in which the legislator, having his eye on a matter of so great importance, would remedy the evil; but these dispositions were only written paper, because the war always frustrated the most salutary intentions.

»The epoch from 1858 to the beginning of 1863 is a sad one for Mexico: there are few days which are not marked by an encounter or some fatality; the passions being exasperated, the hatred more than ever enraged, a real political revolution was brought on, exhausting all the resources, being good or bad, that could be laid hands on and invented in order to annihilate the belligerent parties. How odd it is, therefore, that not only were the roads neglected, but they were even intentionally destroyed as a means of defense and so as to cause damage to the opponents. The workmen, converted into sappers, used their tools for cutting the roads, to destroy the bridges, and in fact to obstruct all communications. What would be left of them?»

Thus, more or less, things continued during the few years in which the ephemeral Empire of Maximilian delayed in falling; however it is only just to state, that it attended sufficiently to the road of Veracruz; and it rests to say, that the constitutional fever and the organic development, which the country had to suffer, ended, in order to cure itself from the many traditional evils which since 1821 afflicted and paralyzed its progress, when the Republic was definitely restored in 1867.

The toll-taxes, which already by a decree of Mr. Juarez had been ordered to be uselessly abolished in 1861, because the agitated state of public matters made it indispensable to restore them a few months afterwards, were definitely suppressed on the 19<sup>th</sup> of November 1867, considering, says the decree relating to it, the delays and annoyances caused by this impost, weighing particularly heavy on the poorest class of the population, as also for the necessity of preparing the establishing of free trade. It was also then intended, as in 1861, to substitute the toll-tax for other imposts, the proceeds of which would be destined for the opening and keeping of the roads; but the Congress of the Union, in formulating the Revenues for the following year, 1868-1869, abolished unanimously these imposts, allowing in the Expenditures important amounts (more than \$1,200,000) for the attentions necessary to this branch.

The same system was followed in the posterior years, during the Administrations of the meritorious Mr. Juarez, Mr. Sebastian Lerdo de Tejada and the first of General Porphyrius Diaz; and although the credits sanctioned by the House of Representatives were always more than the sums really spent on the roads, because the scanty state of the Public Treasury did not allow any thing else, the truth is, that in this as in all other departments of the Public Service, improvements of importance were introduced and it was thought of creating an organization which until then had not existed.

However, in spite of its mercantile, political and even military importance, the problem of our terrestrial communications was far from being resolved; in fact it could not be resolved without the introduction and development of railways, to the study of which we shall especially dedicate the following chapter, limiting ourselves for the present in saying, that in the federal Budget, there were no despicable sums assigned to the maintainance of the high roads and ordinary roads, not only during the epoch in which our great railway lines were made, but also some years afterwards, when these lines were opened for traffic. With all that, though painful it may be, it is only just to state, that those sums



charging a peso and a peso and a half per quarter, i. e. from eight to twelve centavos per kilogramme. Such small and poor means of transport could not even give a moderate amount of satisfaction to the growing necessities of the mercantile traffic, which, even in the best of times, resulted irregular, slow and excessively dear. For this reason our Governments thought a long time ago of the construction of railways and amongst which, as our inveterate habits imposed it, it was judged that the one communicating Mexico with Veracruz as the most important and after this, the one uniting the Capital with the Pacific Ocean, especially with Acapulco (1). Thus it was, that the first concession in the form of an exclusive privilege to build a railway from Veracruz to Mexico was granted on the 22<sup>nd</sup> of August 1837 to Francis de Arrillaga; a concession, which, as so many others, had simply to remain on paper, because the undertaking required capitals which we neither had nor could we succeed in getting in our disturbed state of perpetual civil war.

However, a few years afterwards, on the 31<sup>st</sup> of May 1842, the creditors of the roadway from Perote to Veracruz, i. e. the successors of those, who had facilitated to the vice-regal and to our first Governments, with a guarantee of the toll-taxes, the capitals necessary for the opening and the keeping of those roads, accepted the obligation of constructing a railway from Veracruz to the river San Juan, in exchange of certain rights, many of them perpetual and exclusive, and amongst which was the one of collecting freights and passage-money at rates which we would to-day consider as very high, but which then were found extremely moderate and just (2). It took more than eight years before the traffic between Veracruz and El Molino was opened, the first thirteen kilometers of this railway had in time to form a section of the Mexican Railway of Veracruz; this took place on the 16<sup>th</sup> September of 1850, a date which must be counted as memorable, because it initiated in our secular system of communications the change, though on a very reduced and miserable scale, which in time had to convert itself in one of the most important, perhaps the most important, of factors of our progress.

The detailed history of this first concession of a railway is highly curious and at the same time intensely instructive; a concession which extended itself to Mexico, passing successively through many hands, costing us so many sacrifices and which finally gave value and life to the first lines, which, over any amount of incidents and changes, to-day constitute our railway system. It is therefore a pity that we cannot give here an account of the history which forcibly would have been extensive as its principal chapters are contained in more than twenty five privileges, laws and contracts; and we have only to state, that the two Mexicans Emmanuel and Anthony Escandon, were the most constant and laborious workers of this enterprise, realized with English capital; for the tracing of the railway, part of the old road via Orizaba was elected, overcoming enormous difficulties in the construction, which to-day are the marvel and amazement of travellers and that of experts in these matters, to which the Government of the exotic Empire of Maximilian gave impulse as much as it could, favoring to a high degree the progress and realization of the great enterprise and for which the Republic afterwards, under the Administrations of the Presidents Benedict Juarez and Sebastian Lerdo de Tejada, did not spare any sacrifices, nor curtailed the help, which, in the middle of the sad state of our wretchedly poor and desorganized Exchequer, it was able to procure, so that the Nation might be endowed with this very important railway line; these excellent citizens, even confronting in 1868 and principally in 1873 the risk of an undeserved unpopu-

(1) Though it can be said that all our Governments favored the building of the Railway to Veracruz, it nevertheless seems certain, that the lamentable General Anthony Lopez de Santa Ana was personally opposed to it, giving as a reason the prejudice which the breeders of mules and the owners of carts would suffer, as well as the muleteers and conductors engaged in our extraordinary dear and miserable traffic.

(2) These tariffs can be seen and other very interesting facts on the Mexican Railways may be consulted in two official publications; the one is: the *Colección de leyes, decretos, disposiciones, resoluciones y documentos importantes sobre caminos de hierro arreglada en el Archivo de la Secretaría de Fomento*; and the other: the *Reseña histórica y estadística de los ferrocarriles de jurisdicción federal*, formed by the 2<sup>nd</sup> Section in the Secretary's office for Communications and Public Works, and of which two volumes have appeared, referring from August 1837 to 31<sup>st</sup> of December 1899.

unfortunate times, the enterprise for the regular conveyance of travellers and merchandise only originated amongst us towards the end of the half of the xix century, i. e. after the North American invasion. To give entire credit to those very informations, it was from the invading army that the Mexicans learned the use of the large transport-carts and of the stage-coaches or vehicles for nine to twelve seats, requiring a numerous set of coach-horses or mules; but, in any case, what we really understand to be without any doubt, is, that the first line of stage-coaches was established towards 1849 or 1850 by Mr. Emmanuel Escandon, a man of exceptional energy and of a resolute spirit, whose name is leagued to many enterprises and especially to that of the railway to Veracruz which at that time, and not without reason, was reputed as the most important and gigantic that could be aborred. The story is told about him, and we refer to this stroke of character in honour of his memory, that having reached the pinnacle of wealth and an elevated social position, he took delight in relating, how he had personally conducted the first stage-coaches which run between Mexico and Puebla for want of expert coachmen; stage-coaches which, in truth, according to tradition that found its way to our days, were frequently stoned by the people of Puebla, as they considered the interests of the dealers, conductors and owners of the wretched coaches and horses or mules, used by the few persons who could not help avoiding the considerable risks and infinite vexations of a journey, to be wronged.

Mr. Anthony de Zurutuza, a Spaniard, whose name is still very much known and popular with us, succeeded Mr. Escandon; he extended the stage-coaches to all populated centres of the Republic, establishing

a real organization, which he personally directed with inflexible energy, indefatigable activity and uncommon intelligence, and which greatly facilitated the conveyance of travellers and the public correspondence at relatively low prices, having had to establish all, post-stages, halting and resting places, hotels, which, good or bad, helped in making the existing ways of communications quicker and less incommodious, in a country without roads and nearly always over-run with military forces and numerous revolutionary and foraging parties, looking for shelter for their exploits, misbehaviors and insults under a political banner.

At the same time the use of large carts made itself general which in trains of a dozen or more, cheapened the freight of the goods and made the importation of certain articles possible, which, like machinery, often exceed by much the cargo of an animal alone. Even lines called *express* were established, because they only took from eight to ten days to run over the distance from Veracruz to Mexico,



Emmanuel Escandon

101

some of the most beautiful  
scenery in the world, and the  
most beautiful in the world.

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Communications

**Mexico.—Main façade of the station  
of the Mexican Railway, from Mexico to Veracruz**







grant to any of the North-American pretenders the concessions which they solicited, but decided in giving them to a Mexican Company, formed by some of our most enterprising capitalists, in front of which were Anthony Escandon and Raymond G. Guzman, a company which was authorized to construct a railway from Mexico to Leon and to which numerous privileges and large pecuniary subsidies were promised, amongst which were the proceeds of a National Lottery, with the character of being the only one in the country.

An other event took place during this period in the matter of railways: the concession granted to Marion Riva Palacio, we understand as Governor of the State of Mexico, for constructing a line from the Capital of the Republic to Toluca and Cuautitlan. This concession, which passed into the hands of Mexican capitalists, and which also had the privilege of making use of the proceeds of a special Lottery, gave origin to the construction of a narrow gauge railway, which in 1876 had an extension of only a few kilometers.

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With the construction of the railway from Mexico to Veracruz, which made the benefit derived from the lines of communication perceptible, notwithstanding the high freights and numerous deficiencies of that our first railway line, grew in the country the eagerness to see the railways established, and the first presidential Administration of General Porphyrius Diaz, though he declared the concession of the railway from Mexico to Leon to be extinct, having always been unpopular, exerted himself to give satisfaction to the wish of the Republic in resorting to various expediences. One of those was to examine on the 50 kilometer line from Esperanza to Tehuacan the system of which the State would assume the character of railway constructor with resources from the Public Treasury. In fact the line was constructed, but soon afterwards it was alienated.

Besides, the eminent statist Mathias Romero, Minister of Finance in 1878, the settlement of our Public Debt being then still in suspense, attempted to resolve at the same time this problem and that of the railways, offering to the creditors of the nation, that as soon as they accept the recognizance of its credits, a railway of 1,000 kilometers from Mexico to the Pacific, passing through the principal towns of the interior, should be constructed in exchange, counting principally on the elements that the Bondholders of our disastrous London loans would supply in order to carry it out; the truth is, that Mr. Romero succeeded in the relative convention being accepted and signed by the representatives of those Bondholders, sending it to Congress for its approbation, which it never obtained, be it on account of the unpopularity which weighed heavily on the traditionally called «English Debt,» or be it because the Government was in lack of the indispensable security to rely on the realization of the scheme.

Finally, the Administration took recourse to a third expediency so as to manage the construction of the railways, which consisted in granting to the governments of the States very large and liberal concessions in order to construct within their respective territories local railway lines, which, if carried out, could be joined and would later on form a whole system. It is clear, that the very poor state of the treasuries of the States should realize such a work with their own resources, was not reckoned upon, but only to put at its disposal the influence of each government, so that the capitalists of the region might decide to undertake, and may be to realize the design, perhaps with an additional subvention from the State. And thus it happened, that towards the end of the year 1878, already more than fifteen concessions were granted to the governments of our principal States, which, if the greatest part of them remained on paper, were not all totally fruitless. For instance, the railway of Morelos gave later on the origin to the formation of the Interoceanic Railway Company, which with English capital endowed the country with a second line to Veracruz, passing via Perote and Jalapa; the railway from Celaya to Guanajuato was profited by the Central Railway line at the section where it was being constructed; and the one of Hidalgo has given origin to the first line we had between Mexico and Pachuca, and to the Company named the North Eastern Railway, which is kept in Mexican hands and which still aspires to put us in communication with Tuxpam across the rich region of the mountain ridges of Hidalgo and Puebla. Besides,

larity, provoked by passionate discussions which on this matter were roused in Congress, as long as we were in a condition of an economically prosperous life and that the first railway be built, which had to put us in a state of prosperity. Mr. Juarez did not see it built in all its extension but only as far as Puebla, which branch was opened on the 16<sup>th</sup> of September 1869. It was Mr. Lerdo de Tejada who had the good luck to descent for the first time on the wings of the locomotive from the Mexican Central Tableland to the Atlantic coast; this great event took place on the 1<sup>st</sup> of January 1873, amidst the rejoicings of the whole Republic.

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It was during the following years of Mr. Lerdo de Tejada's Administration, when really the question about railways was planned amongst us, as much under its technical aspect as well as in its relation with our international policy. Would it be convenient that our railways were of a narrow or broad gauge? Ought we to consent that North-American capital should be employed in constructing our railways, joining them with those of our powerful neighbour, which would certainly be the result in the affirmative case? Such were the problems put before the public authorities and the general opinion on the occasion of two United States citizens soliciting for the concession, claiming to be authorized to construct railway lines from the City of Mexico to the northern frontier of the Republic.

Although great importance was given, within the House of Representatives and even without, to the question of gauge, without arriving to resolve it in any exclusive sense, the truth is, that the one referring to the question, whether we ought to join our railways to those of our neighbours, was the most serious and transcendental. To no one in Mexico, and much less to Statesmen of the stamp of Mr. Lerdo de Tejada, was ever the danger concealed which we run with the proximity of the North-American colossus, at the side of whom, we have to confess, however sad it may be to say so, that we represent, and more so then and on account of that, but the character of a child or a dwarf. Besides, the painful recollection of the unjust war of 1847, which cost us half of our territory, is a more than sufficient cause to rouse uneasiness and fears not at all illegitimate nor unfounded. Consequently, the clear object of our international policy had always to be in the first place, to grow, to develop ourselves, to strengthen our national organism and afterwards to find on the other side of the Atlantic a support which alone can be efficacious in creating, acclimating and encouraging here European interests and elements. Unfortunately, the unjustifiable French intervention, obliging us to wage resolutely a war without truce, in order to preserve our nationality, interrupted our organic evolution, and not only did it physically weaken us on account of the material sacrifices imposed upon us, and morally in dividing us more than we already were, but also with the blood of Maximilian it created a gulf between Europe and Mexico, which, if it was necessary to shed in order to consolidate peace in the interior, deprived us of the sympathy of the Nations which had then preponderant influence in European politics.

That certainly would pass; years had to heal our wounds, and, in giving back to our minds the serenity, would make it to be understood, that if national justice had to sacrifice the deceived Austrian Prince, it was not a savage and sterile vengeance that caused it, but ineludible necessities for consolidating peace, cutting off for ever in the unfortunate Archduke the aspirations of the bad Mexicans, who, so as to make themselves masters of the political power and to drown the aspirations and the vehement desire for liberty in this country, did not hesitate to sacrifice to strangers the dignity and honour of their country; but while we were still suffering the consequences of the war and of isolation, the United States knocked at our doors offering us their capital for the construction of railways which had to be politically and commercially the basis and foundation of our development. What has to be done in front of such a formidable problem?

It is said that Mr. Lerdo de Tejada concreted his way of looking at it in a phrase, which tells all: «Between force and debility let us cling to the wilderness.» We have not been able to prove the exactitude of the fact nor the authenticity of the words; but it rests without doubt, that the famous statist did not



and joining the towns of San Luis Potosí, Saltillo and Monterrey. The fundamental principles of these concessions, dated the 8<sup>th</sup> and 13<sup>th</sup> of September respectively, and which, with few deviations, were followed in all the others, can be abridged thus: the concession was made for ninety nine years, at the end of which the railway line becomes national property, without any payment and free of all burden; not so the stations, depots, workshops and rolling stock, the price of which, subject to the opinion of experts, will have to be paid to the Railway Companies. During this period, the exploitation was left in charge of the Company to which the concession was granted, but subject to certain rules and especially to fixed rates, the extreme limit of which can on no account be exceeded. The Government has the right of appointing inspectors of the construction and exploitation of the line, as well as one or two of the directors, the Company being besides obliged to render a rather minute annual report of its financial state and of the traffic and its earnings.

The tariffs that have to be adjudged with absolute equality, are periodically revised, and certain articles, such as rails, coals and others, must always figure in the last class or pay very low fixed rates. Government effects as well as troops and public functionaries travelling on public service, enjoy the privilege of important reductions in the freights and fares on those fixed by the ordinary rates; the mail as well as the officials conveying it, are carried free. The Companies are authorized to establish telegraph lines for their service and that of travellers, being under the obligation of allowing the government to put a wire on their posts, which they have to look after and keep in repair.

On the other hand, very important privileges, exemptions and pecuniary subsidies were granted by the Nation to the Companies. Not only did they enjoy the right of expropriation on account of public utility, viz: the laying of the lines and for building its stations, warehouses and depots, but also an almost absolute liberty to import their fixed and rolling stock; they were allowed to take possession gratuitously of the land of national property as well as of the building material which may have been on it; they were also exempt of all classes of imposts for long periods.

Finally, the Nation bound itself to pay to the Companies a pecuniary subsidy for every kilometer of line constructed, which was \$ 9.500 for the Central Railway \$ 7.500 for the National on its Pacific line and \$ 6.500 on that of the northern frontier.

It was stipulated, that both Companies were to receive special Certificates for the payment of these subventions, on which the payment of a percentage of the import duties had forcibly to be made, which were collected at all or at the most important maritime and frontier custom-houses in the Republic: 6 per cent were assigned to the Central and 4 and  $\frac{1}{2}$  to the National, stipulating that such Certificates were not to bear any interest.

Thus had our two great railway lines their origin, which, as it was to be expected, were naturally connected to the North-American lines; the same happened with the one granted simultaneously from Guaymas to Nogales, in the State of Sonora.

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The posterior four years, corresponding to the presidential Administration of General Emmanuel Gonzalez, were almost of a feverish activity in regard to the subject on which we are treating. The policy of that Administration, as well as the one of the posteriors of General Diaz, especially up to 1891, consisted in granting liberally, almost prodigiously, railway concessions with subvention to all that asked for them, without any rule, and one may also say, without order nor arrangement of things. The fervent Apostle and active executor of this way of proceeding was General Charles Pacheco, Minister of Public Works, under General Gonzalez as well as General Diaz's Administration; and though it some times gave rise to considerable financial difficulties, as we shall see in its proper place, the truth is, that, though the most timorous spirits must feel themselves inclined, not only to absolve these governors but also to applaud them, they had a blind and absolute confidence in that the country would receive such a considerable new impulse with the construction of the railways, that it would suffice for the Public Treasury,

when the two powerful North-American Companies were formed, the one of the Central Railway and that of the National, of which we are going to speak, they had to address themselves to the local governments, as they obtained the concessions before them, so as to prevent possible competitions in the future, helping to facilitate much that those Companies agreed to trace their lines through certain places, which otherwise would perhaps not have been put so soon in communication through the locomotive. This policy was therefore not sterile, as it was thought to be by some, nor does it deserve censure for having instilled and supported it the then Minister of Public Works, General Vincent Riva Palacio, who, in strict justice it must be said, had an earnestness and a decided ardor for creating railways, though little did he stop to consider the possibilities of the Exequer to pay the pecuniary subsidies which he promised, neither did he form a general plan on classification of the lines according to their importance, gauge, etc.

Things went on in this way, when in the year 1880 the pretension of the North-American capital took a definite and serious shape in inundating our territory with its railway activity and to construct two lines from the northern frontier to our Capital, with access to the Pacific by means of branch lines. According to facts shown soon afterwards; these pretensions did not emanate from mere speculators, as it was the case with many that came to our Governments in former epochs, but from groups of financiers, capable of realizing the enterprise in a short space of time.

Therefore, the opportunity of resolving the vital problem of our difficult terrestrial communications had arrived, and the public authorities, with the acquiescence of the whole Nation (it is only just to say so, that history may never forget taking it in account), decided upon it without any vacillation, passing over the fears and scruples which many of our public men had harbored. Two very important concessions were granted: the one to the Mexican Central Railway Company, previously organized in Boston, to construct a normal gauge line (one meter four hundred and forty five millimeters) from Mexico to Paso del Norte, touching Querétaro, Celaya, Salamanca, Irapuato, Guanajuato, Silao, Leon, Aguascalientes, Zacatecas and Chihuahua, with a branch line to the Pacific, passing via Guadalajara, and the other to the Mexican National Construction Company, being formed in Denver, to construct a narrow gauge railway (nine hundred and fourteen millimeters) from Mexico to Manzanillo, touching at Toluca, Maravatio, Acámbaro, Morelia, Zamora and La Piedad, and an other from Mexico to Laredo on the northern frontier, branching off from the former between Maravatio and Morelia,



Anthony Escandon



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Public works and communications

**Railway from Mexico to Veracruz. — Viaduct of Metlac**

FROM A PHOTOGRAPH BY BRIQUET







nature in produce as ours is, it makes it now indispensable to adopt a well meditated standard course to which the Government will have to adhere itself in the future, in granting concessions and in entering into contracts for works, as well as to find the best possible application to be made of the funds, which the Nation may destine for the mentioned purposes.

»Up to now, instead of directing the initiative spirit so as to channel it in such or such a sense, the Government has nearly always subordinated its ideas to those of the respective Companies, in the matter of tracing the lines and in other conceptions, with the patriotic object of not creating any difficulties to those that proposed sacrificing their efforts and to invest their money in works of such a transcendancy and without doubt confiding also, that the private interest of the Companies, which has to influence them to find the plan that may best fill the aspirations of the producers and consumers, might serve as a powerful agent to satisfy the most important and most urgent necessities to the procommunal interests.

»But this period in which the aid of all forces and all the good dispositions should have been accepted in its full extent, and so to say without any discernment, so as not to discourage the individual initiative, whatever it may be, has ended with us, being now time that it should be substituted by the peaceful study, foresight and judicious economy. The twenty years' experience and the circumstance of having now been finished the work which the Nation claimed with so much urgency, permit the Government, i. e. not only permit it but also impose upon it the obligation to harmonize the acquired results, joining some of the works with others, forming a conjunction of means of communication which correspond better with the needs of the country, requiring at the same time the least possible sacrifice on the part of the federal Treasury for the future.

»However something has been done lately by the Secretaries of Communications and Finance in order to abandon the casuistical and empirical policy followed in these matters, and the greatest part of the recent contracts and concessions have been the subject of serious studies, made by common consent by both Secretaries, and not only infused into the mind according to circumstances, but also in the general considerations to which such a transcendental problem lends itself as the one we have just enunciated.

»As to the rest, it is now time, that those conflicts cease, which continually are stirred up between the interested parties in different lines, on account of the granting of concessions, the planning of the line or the assistance which the Government may lend to the Companies; that also a stop may be put to every kind of solicitations and steps taken in every case where a subvention, a prorogation of time or any modification in the concession may have been the object to attain; and in one word, that all inconveniences of a proceeding which do not obey a previously and minutely studied general plan, may disappear, and from which the Government would not in the least have to depart neither for personal nor local considerations.

»For the fixing of the general lineaments of the Government policy in railway and harbour-work matters, refer the following ideas and propositions, which are the result of long observations, and of the earnest desire I have in order to resolve definitely and to public benefit one of the vibrating questions and of the most transcendancy amongst those that affect the federal Treasury and the economical conditions of the country.»

The exposition continues in letting us know, that on the 1<sup>st</sup> of July of 1898, the concessions in force embraced an approximate extension of 5.930 kilometers of railway to construct in almost every State of the Republic and to which the Nation had made itself liable to assist with the following sums and species:

In 5 per 100 Bonds of the interior redeemable Debt . . . . .	\$ 33.602.750
In special 5 per 100 Bonds . . . . .	» 796.000
» » 6 per 100 » . . . . .	» 13.803.652
» hard-cash . . . . .	» 2.016.800

the resources of which are the forced reflection of the economic strength of the country, to be able to support the heavy burdens and great engagements which were thrown upon it.

We shall return to this subject again; but now let us make it clear, that in the decade from 1880 to 1890 alone, our railway concessions may be counted by hundreds, that in not all matters a uniform and well defined system was followed, for lines of various gauges, from 60 centimeters to one meter 495 millimeters, were authorized; there were concessions with and without subvention: subventions in hard-cash, in Notes on national lands, in Bonds paying six per cent and issued at various rates, and in Certificates admissible in payment for import duties; to some Company, the right of receiving a fixed sum during a certain number of years was granted, in the form of a guarantee for interests on a fixed capital for every kilometer of line, and so on. However, it must be stated, that on other very important points, an inflexible uniformity was really observed, and that according to the progress made by our railway network, even certain privileges granted to the Companies were restricted and better regulated. Thus, for instance, the principle of reversion of the line to the Nation after a certain number of years; the fixing of the maximum rates, up to a certain uniformity, the intervention of the public authorities in the construction and exploitation of the line; the obligation of rendering to the government an annual detailed report; the free conveyance of the mail; the right of the Government to fix a wire on the railway telegraph posts, have been the principles, with others of notorious importance uniformly observed, which, so to say, give a character or general physiognomy to our railway system.

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The impulse given, not only to railway matters but to all those depending on the Secretary of Public Works in general, nuriished in 1853, as we understand to have already said, made it necessary to think of organizing an other department viz: Secretaryship of State (Home Department), and by the law of 13<sup>th</sup> of May 1891 it was ordered to create that of Communications and Public Works, in the care of which were the following branches: Inland Post.—Maritime Lines of Communication or Mail-Steamers.—Universal Postal Union.—Telegraphs.—Telephones.—Railways.—Harbour-Works.—Lighthouses.—Public Monuments and Works of Utility and Decoration.—Roadways, Causeways, Ports, Rivers, Bridges, Lakes and Canals.—Wardenship and Works in the National and Chapultepec Palaces.—Drainage of the Valley of Mexico.

As it was to be expected, the new Secretaryship commenced putting more order in things and also in not being so liberal in regard to railways; it can be said, that towards 1892, this spirit, which might be called restrictive in contrast to the one that has been domineering since 1880, acquired a marked increase with the system of a rigorous foresight and an inflexible method which has governed the organization of our Exchequer, carried out by the Minister of the office, Joseph Y. Limantour. However, the formation of a real plan of public Administration in this matter, did not take place till September 1898, when the President of the Republic and his Council of Ministers approved the conclusions of an exposition, presented by Mr. Limantour on railways and harbour-works, and which a short time ago was published in the Memorial of the Secretary of Finance corresponding to the fiscal years of 1898-1899.

This document is interesting from many points of view, marking the precise moment of our railway history, in which, so to say, we stopped to see the distance over which we run, which was enormous, the methods we had employed, and above all, what it was that was wanting to be done and how have we to carry it out within the well defined lineament of a rational plan. Therefore we deplore, for many reasons, for not putting this exposition integral before the eyes of our readers, but in the impossibility of doing so on account of its great length, we will limit ourselves in copying its most characteristic and important passages.

In speaking of the past, the document expresses itself thus:

«Having past the period in our history during which it has been a real necessity to foment the construction of railways by every possible means and even at the cost of hard sacrifices, so as to put in easy and economical communication the principal regions of such a vast country and of such a variegated



localities, frequently oblige the modification of the direction or the proportion of the projected works; in one word, multitude of circumstances and considerations analogous to the anterior, do not permit to adopt an invariable standard conduct on the subject under consideration, but they oblige to make distinctions so as to apply the rule, in some cases with all rigor, in others to mitigate it and in some of them to prescind it.

»In order to proceed methodically in this matter, it is before all indispensable to form a general plan of the means of communication in which the lines are classified according to their importance, taking principally the federal interest and the urgency of the execution in consideration.

»The aforesaid study must be made with the view of completing in the most satisfactory, and at the same time economical manner, our actual railway net of general interest, also designating the ports to which the preference to improve has to be given as the terminal point of the railway lines of first importance.

»With regard to the existing concessions of the lines in construction, or not yet commenced, be it those with subvention or those that do not enjoy that assistance, the selection must be made with identical criterion in order to qualify those that have to be considered as of first importance.

»Once formed the general plan of the lines and works that have to be executed in the country with preference to all others, so much because they content the properly federal purposes as they also satisfy the most pressing needs of the Republic in the matter of traffic, the standard conduct of the government will be forcibly, logic, simple, equitable and economic: logic, because it will correspond to a general, well studied and formed idea; simple, because it will save the difficulties and vacillations which have been produced and are still being produced on account of the efforts made by the interested parties to obtain, modify or to prorogue the concessions; equitable, because in attending to the most transcendental interests of the country, putting aside the personal and local ones, those of the community remain more extensively satisfied; and lastly, economic, because it is the only one which in the clearness of the sound principles of science can give good results with the least possible sacrifice.

»It will, therefore, be necessary to procure and to favor the construction of lines which form part of that network of urgent necessity, to postpone those which do not involve a pressing want, though they may be of general importance, and to cancel by all legal means and inexorably all the contracts and concessions with subventions which have for their object the execution of works that may not be comprised in the general plan adopted. Amongst these latter ones, there are evidently some of the concessions in force, the principal object of which is the development of the interests of a region, a locality or of certain industrial, mining and agricultural concern of small extension; and the same can be said of some of the lines, the cost of which is out of all proportion to the Exchequer with the exiguous traffic, which may be susceptible to promotion, either on account of the special conditions of the region it runs through, or because they have disadvantageously to compete with river or maritime traffic.

»In this order of ideas, and only to give a precise form to the conclusions to which I have arrived at, after many years of study and reflection, I beg to suggest, it is understood without prejudging the result of the works which are rather those of the Secretary of Communication's competency, that the lines of first importance, the termination of which urgently claims the development of the country, should respond to the following purposes:

»To join the centre of the country with a line to Guaymas or Topolobampo, with an other one to Mazatlan, a third one to Manzanillo and with the last one to Acapulco or Zihuatanejo, in order that our direct communications with the Pacific Ocean do not leave anything to be wished for.

»To continue our network towards the South, connecting the National Railway of Tehuantepec with the rest of the country and prolonging the line, in the direction of Guatemala, which one day has to be continental, uniting our frontier of the North with that of the South, traversing the national territory in all its length.

»Finally, to establish a more direct communication between Mexico and Tampico, a thing, though

For the railway of Tehuantepec, according to contract made with Messrs.

S. Pearson & Son \$ 5,000,000 in cash, or in Bonds of the 5 per 100

interior redeemable debt . . . . .	\$ 6,500,000
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Total in round figures. . . . .	\$ 58,700,000
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With regard to the future policy of the government, on the subject of subventions, the exposition says: «Reduce and to continue reducing, for some time yet to come, the amount of the obligations of which we have just been speaking, is certainly the principal rule which the Government has to observe in its policy; but on the other hand it is incontestable, that in applying the criterion in all the cases, declaring



Mexican Railway. A new view of the Metlac ravine

(From a photograph by Briquet.)

systematically the extinction of the subsidiary concessions, or to rescind the respective contracts when the opportunity should present itself, would be to exceed the object and would cause serious prejudice to the country, delaying the development of its varieties of production without any imperious motive.

»It has to be born in mind: that not all contracted works, neither the granted concessions for the construction of the railways, are of the same interest to the Federation; neither does the country claim all the works pending to be executed or which are thought of being undertaken with equal urgency; that a difference, and a very great one, exists between the considerations which the Companies deserve, because, while some have fulfilled all its obligations, others have only partly done so, and others, may be, have shown their complete impotence; that sometimes vicissitudes of a certain nature which do not constitute fortuitous cases nor those by «force majeure» in the legal acceptance of the word, and which, nevertheless deserve to be considered by the Government, have influence on the fortunes of some societies, weakening or nullifying their resources and their means of action without any fault of their directors; that the more exact knowledge of the country, as well as the continuous variation of the economical conditions of the



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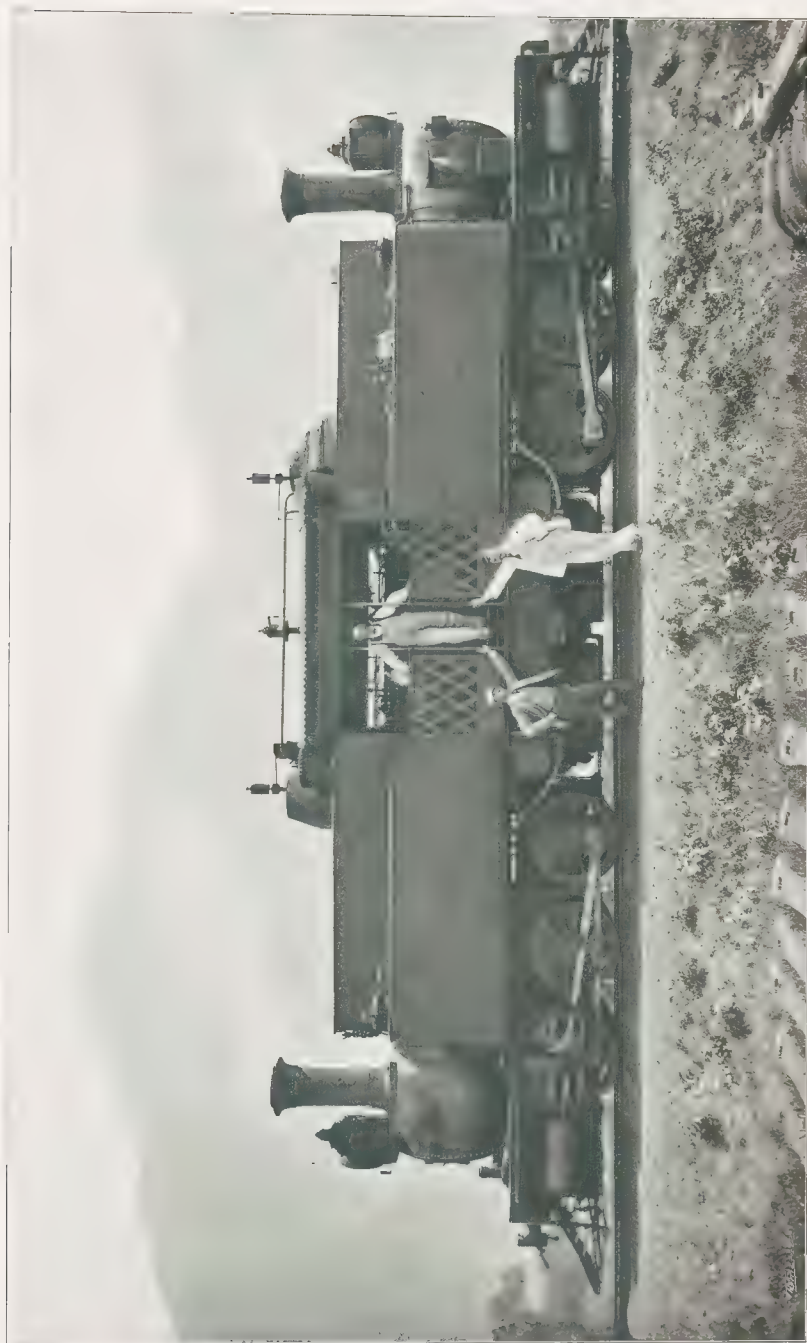
MEXICAN RAILWAY

**Type of locomotive for the steep gradients  
of ascent to the Central Tableland**

(FROM A PHOTOGRAPH BY WATTS)







«The truth is, that under the present circumstances, the object, desired to reach, cannot be obtained in a complete manner, and for this reason, as long as the difficulties created through the Spanish-American conflict are not definitely resolved, and the money does not confidently flow to the principle European and United States markets, it will not be possible to follow resolutely either of the two ways just spoken about to make the payments for stipulated works independent from the payments for subventions. As a means of precaution, it only remains to stipulate with the Railway Companies, as far as possible, the permission for the Government to make the payments for the subventions in 5 per 100 Bonds or in others of a different class in corresponding proportions, according to the rate of interest and the redemption to be fixed, so as to be always in readiness to adopt any of the solutions to which reference has been made. Besides, in reducing its engagements of paying in Bonds as far as feasible, the Government could in the meantime put in force those means that tend to give greater value to these or at least to avoid its fall, be it in reducing the quantity of Bonds in search of a buyer at a given moment or in procuring that they are only put on the market in case of a demand. At all events, the necessary will also have to be done, to inspire the public with the greatest confidence as regards the good and well chosen application of the resources furnished by the national credit.»

Finally, with regard to the bases themselves of the future concessions, Mr. Limantour expresses himself as follows:

«According to what has been said at the beginning, it is now necessary to deal with several points of the railway concessions relating in a direct or indirect manner to the Finance Department and independently of those versed on the Companies' subsidies. From the frequent interchange of ideas between the Secretaries of Communications and Finance, on the occasion of the recently granted concessions, or of the modifications made to the old ones, originated a good part of the reflections, which I am going to commit at once to writing.

»Much could be said upon those points, for the granted concessions to construct railways, enclose numerous and important questions affecting the federal Exchequer as well as the various services commended to the Department under my care. To treat the matter extensively, it would be necessary to give more proportion and a sphere contrary to my intention; I consider it more practicable and opportune to touch for the present only on those essential points, which have an easily perceptible connection with the principal purpose of this work, leaving the other points, with a previous study and concurrence of the two Secretaries interested in it, so as to enact the invariable rules to which the concessions have to subject themselves in the future, by virtue of the authorization from Congress.

»Under pretext of a preliminary observation, it would be convenient to call at once the attention on the necessity of ascertaining, before granting any concession, the honorableness and solid financial position of the persons soliciting it, as well as the guarantees offered for the fulfillment of their engagements.

»For reason which are not here in its place to examine, the Government found itself frequently compelled to grant concessions to persons or Companies, that have resulted to be without the necessary monetary elements and credit to carry them out; the experience gained to now, has disclosed the serious inconveniences in proceeding in this manner.

»The concessionary, who has not beforehand brought the necessary elements together to undertake the enterprise, but goes from door to door, offering to the bankers and to men of business the concession granted to him by the Government, is a disreputable agent, for the negotiation itself, for other transactions that might have a certain connection with his own, and in many cases even for the Government, which, without using all possible precautions, has granted him freely the concession.

»The pernicious influence of the concessions, in incompetent hands is so evident, that, in publishing the contract without subvention for the construction of a railway which had a distant parallelism with an other line already granted and subsidized, the case was seen, in which the capital ready to be invested in this last concern was withdrawn, making, therefore, the enterprise a failure.

»As a complementary guarantee of the information which the Government ought to take on the hon-

not indispensable, considering the actual communications with that port, which may nevertheless serve to unite the port of Acapulco with the Capital of the Republic and the Northern frontier by the shortest possible route.

»In defining somewhat more clearly the anterior ideas, I believe, that amongst the concessions in force, only the following ought to be considered as lines of first importance:

»The line which has to join in a direct way the Central or Southern part of the State of Chihuahua with Guaymas or Topolobampo.

»The one in course of construction in the direction of Acapulco.

»The one putting in connection the Mexican Railway with the National Railway of Tehuantepec at the section from Orizaba to Veracruz.

»The one joining in a direct way the City of Mexico with the port of Tampico.

»And besides, those mentioned in continuation, for the construction of which there is no concession in force:

»From Guadalajara to Tepic and Mazatlan.

»From Guadalajara or any other point on the Central Railway to Colima; and

»From San Jerónimo, on the National Railway of Tehuantepec to the frontier of Guatemala.

»Through motive of vacillation, I have included in the list of lines of first importance one that should join the National Railway of Tehuantepec with the network actually constructed in the Yucatecan peninsula, traversing the State of Tabasco and the necessary part of that of Campeche; but the circumstance that all that territory is crossed by numerous rivers, giving easy exit to the products of that rich region, has inclined me to consider the expressed line of a less urgent character, than those enumerated.

»The conjunction of ways of communication, which form the preceding lines and those already constructed up to date, will for many years certainly be sufficient to satisfy the needs which the development of the country carries with it; and if it be true, that in many other places of the Republic the construction of railway lines would produce very valuable advantages, these lines must only claim from the federal Government a protection which consists in exemptions from imposts and in giving facilities of various kinds, but not pecuniary sacrifices, which, in the extreme case, would rather correspondent to be made to the government of the States interested in it.

»In my way of feeling, the ideal of the Government should be to see itself in the possibility of reducing the total amount of the subventions to railway Companies, even the necessary sum for subsidizing the lines which have been enumerated as of first importance, and to declare to be extinct or to obtain the rescission of all other subsidized concessions in force at this date. But as on one hand it is indisputable that lines of secondary importance, which to-day enjoy a subvention, continue to be constructed, and on the other hand, being necessary to devote sums to the improvement of the Pacific ports, besides those which in the Expenditures of the Budget are destined for this purpose, the reduction could only be made up to the maximum expressed, and it is to be feared, that however modest the subventions granted to the new lines may be, and however little may be spent on the Pacific ports, they will not be sufficient to diminish to any important amount the burdens, which according to the Chapter on Subventions, weigh at the present moment on the National Exchequer.

»Notwithstanding this last reflection, whatever the alleviation obtained may be, the Government must not omit any effort nor let the opportunity pass by, to carry out its programme of reduction; it will always be time to assume additional burdens in proportion to the advantages expected to derive from the new works.»

It should afterwards be investigated, whether it would be convenient that the 5 per 100 Bonds of the interior redeemable Debt should continue to be issued, as it has been till then, some times for account of the Public Treasury in order to procure the necessary funds to pay for the works, the price of which had been stipulated in cash, and at other times to hand them over to the Companies to which a subvention in these Bonds had been promised; the exposition on this particular subject ends thus:



greater part of them contain dispositions which literally say: «That the railway lines, as well as all other property acquired by the Company, the rolling stock and all other objects that constitute the railway and the telegraph lines and their dependencies, will be considered as property of the Company, which shall have the right making use of it on terms and under the same conditions as any other property;» nevertheless, the limitations which that right has, be it by virtue of the same contract, be it by reason of the general laws and rules of railways, are of such a nature, that it is far from being a clear and perfect right of property.

»It is true, the right of dominion of the Companies on the line and its dependencies has only a fixed duration; it ends with the simple lapse of 99 years, and in some cases of its falling due, on the contrary, does not give rise to an indemnification but only to the rolling stock and some other accessories; it cannot be transferred without the approbation of the Government; it is subject to the forced purchase in case of having only been constructed part of the line; the mortgages have to submit to a reversionary right (some are of opinion that also to the one of forced purchase), and in this way some other limitations of various kind, which, like those already mentioned, have to be considered in all its consequences, so much as not to paralyze the Companies during the time in which they have the right of enjoying the lines as also in order not to lessen the value of the property or the rights belonging to the Nation without any justifiable motive.

»As it is not my intention to propose from now the alterations that ought to be made in the relative stipulations, so as to leave the Government rights and those of the Companies well defined, but simply to draw the attention on the necessity, that the policy of the Government may fix itself on this point and the others previously alluded to, keeping in sight the importance of this factor so as to counter-balance one day the liabilities of the Nation, I am going to occupy myself with the examination of other points, which in my judgement must not be passed inadvertently in the present document.

»Under the title of: *Assistance administered by the Nation*, the contracts of concession enumerate the privileges granted to the Companies, besides the subsidies in cash or in securities with which to aid them in facilitating the realization of their objects.

»The first to present themselves are the exemptions of all classes of import or custom-house duties as well as other imposts, either federal or local ones, on two categories of articles which the Companies may require for the construction, exploitation and preservation of the railway.

»I have no objection to make, either to the classification nor to the adopted system, but I only beg to observe, that a certain inconstancy prevails relative to the period of the said exemptions, for the terms in which the mentioned period is fixed, generally refer to the whole of the time, and fifteen years more, during which the construction lasts. It is natural that the acquisition of the needful to construct the lines, should be facilitated to the Companies and even during a certain number of years in order to work them, when once concluded; but at the same time measures ought to be adopted, that the period of the construction may not depend upon the choice of the Company because it might then prolong indefinitely the period of exemptions, delaying intentionally the construction of a part of the trunk or some of the branch lines.

»A matter of still greater importance is the pretension on the part of the Companies, that the period to which I have just referred should be prorogued. This pretension has shown itself in two forms: one disguised and consists in soliciting, that all terms should count from the date of modification, for reason of any other modification in the concessions; and the other franc and explicit, soliciting the prorogation of the concessions and the privileges, when the term becoming due is near, alleging various motives for it, amongst others the one of insufficiency of receipts of the line.

»With regard to this, I have to formulate a very definite opinion. Whatever the circumstances of a railway Company may be, the Government must oppose the prolongation of time asked for and this for two fundamental motives: one fiscal and the other relating to the economical wealth of the whole country.

»The fiscal motive is not the most powerful, but nevertheless, it deserves to be taken in account.

orableness of the concessionaries and the importance of the resources at the disposal of the Company, it would be convenient, that as an invariable rule and before signing the contract, be it a concession with or without subvention, a strong deposit in cash or in government securities should be made and to abandon the unjustifiable practice of demanding insignificant deposits or that they may be made after the date on which the contract was authorized by the Executive. It would also be convenient to stipulate relatively short terms without being equitable, so as to strengthen the guarantee for the construction of the various sections in which the line may be divided.

» Entering on the principal study of the railway concessions, the main question that will have to be



National Railway. Bridge of Dos Rios, on the road from Mexico to Toluca

*From a photograph by Briquet.*

observed and resolved, is that of the system which serves as a basis to the said concessions, fixing the rights which the Company and the Government respectively may have on the railway line, so as to dispose of it and of its dependencies and accessories. The question is not one of exploitation of the line as regards public service, nor of interference, which on that account corresponds to the Government, but of fundamental right of property and of all others which may be derived from it.

» It would be idle to continue in showing the interest it has for the Nation, that the reciprocal rights and obligations of the Companies and the Government on this subject be well defined, considering that from the solution given to the difficulties that already presented or may present themselves later on, depends that the Nation may count on more or less valuable properties, which constitute the real reserve with which the incessant increase of the Public Debt and other engagements, weighing on the Federation, may one day be able to make head against.

» Has it been the wish that the Companies should have an absolute and perfect right of property on the line, its dependencies and rolling stock, or are they simply usufructuary for the period of the concession? It does not seem that the last one be the real meaning of the relative contracts, because the



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Communications and public works

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Railway from Mexico to Cuernavaca and the Pacific.  
Cañon de la Mano viaduct







and that the line, which has to connect San Jerónimo, on the Tehuantepec Railway with our frontier of Guatemala, touching at Tonalá, has already commenced being constructed. Besides, the Central Railway Company has acquired the line from Ciudad-Porfirio Diaz to Torreon and the one from Mexico to the river Balsas which will be prolonged to the Pacific, probably to Zihuatanejo in preference to Acapulco, and is, at this moment, constructing a direct line from Mexico to Tampico; on the other hand, the National Railway Company is busy in prolonging its line from Mexico to the Salto as far as Soria, near Celaya, enlarging it from this Capital to the Northern frontier at the normal gauge of one meter four hundred and forty five millimeters.

Our readers will be able to judge by these indications the actual state of our railway lines, and we shall, therefore, only devote a few words to the Tehuantepec Railway, which, as it is national property, constitutes a speciality in this matter.

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From the time of the conqueror Hernan Cortés, who made himself master there by consent of the emperor Charles V, immense territories and a considerable number of vassals, to the last of the sons of this land, endowed with scarcely a moderate illustration, all, hardly without any exception, have nursed like a golden dream, prolific in prosperity, the idea of connecting the two Oceans across the isthmus of Tehuantepec, being the narrowest part of our territory. Therefore, it is not at all strange, that all our governments, whatever shade of politics they may belong to, and our public men at all times, had devoted their more or less considerable efforts and always fervent vows to the opening of that connection, through the most diversified and even extraordinary means.

There were projects of all classes to realize that ideal: some engineers thought of the possibility to construct a canal; Captain James B. Eads, justly famous amongst the North-American engineers for the works realized at the mouth of the Mississippi, devoted a good many years of his life in preconizing in vain the convenience of constructing a railway capable to convey the largest ships with full cargo from one Ocean to the other; many Mexican and Foreign promoters have abjured the more modest plan of stretching a railway across, but all have failed in presence of the difficulties which the country offers, if not exactly on account of its elevation, which does not reach three hundred meters in a distance of so many kilometers, but for its shifting nature on the depressed and unhealthy part of the Gulf coast.

Leaving certain international difficulties on one side, which we had with the United States about the middle of last century, caused through one of those contracts, but which fortunately did not reach a climax, we give herewith a summary, made by the eminent Mexican engineer Lewis Salazar (1), of the pecuniary sacrifices that the Tehuantepec Railway cost the Nation:

«The first contract for a concession of this interoceanic line, was made in 1842 with Joseph de Garay, who, without being able to undertake any of the work on his own account, transferred it to a United States Company without the authorization from the Mexican Government, on account of which it was declared to be cancelled. To this contract, others followed, all without any result, either that the concessionaries were in want of the proper elements or because the construction of the Panamá Railway came to paralyze the realization of the work.

»It was only in the year 1879 that the first serious contract was made with Mr. E. Learned, but the Company formed by him, could only construct thirty five kilometers of the line, annulling the contract at the termination of the stipulated time, which on various occasions was prorogued, and leaving the constructed railway section and other properties of the Company, the property of the Government, by virtue of an immediate payment of \$ 125,000 in silver and afterwards \$ 1,500,000 in American gold in successive installments.

(1) *The Mexican Railways and the mining industry.* Annotations prepared by order of the C. Secretary for Public Works engineer Leander Fernandez, for the meeting in Mexico of the American Institute of Mining Engineers.—Mexico, 1901.

If the nation has made sacrifices of great importance to establish railway lines, and if the Government has lent its aid under manifold forms, it seems rigorously equitable, that the federal Treasury should, for a certain number of years after the line is concluded, receive the imposts of a general character which the respective Company may occasion. If the exceptionally favored condition in which the railway Companies find themselves were too much prolonged, it would be acting with notorious injustice towards the other fountains of national wealth, besides being contradictory to the spirit and the letter of our Constitution with regard to the equitable distribution of the imposts.

»The other reason, which is of an economic-political character, is still stronger. Efforts of an equal nature as those made by the Government to succeed in the construction of railways, are also being made for the establishing of new industries in the country; and if, in favoring the development of some, the implantation of the others would be made impossible, that policy could only be qualified as committing a mistake and of being unjust. This would exactly happen, if, after allowing the Companies to import all that they may want during the construction and fifteen years afterwards without paying any duties, a prolongation of time would be granted to them, making in this way the establishment of industries impossible in the country, such as the fabrication of rails, coaches, machinery and many others that might be founded here, if they had the hope of being able to count amongst their customers the Mexican Railway Companies.

»As the Government is and has been for many years on the protectionist path in the matter of custom-house tariffs, it would not be prudent to suddenly change its policy, being only possible to harmonize, for some time yet, the rates which burden similar articles and that form one and the same industry, to reduce at the same time in general the height of the barriers which oppose or render the importation of many foreign articles difficult. This double task will not be realizable while the principal consumers, the railways, are out of the common law and under the privileged regimen of the exemption of imposts. As much could be said with regard to the period, during which the line itself and its natural and indispensable dependencies, as well as the capital employed for its construction and exploitation, the ordinary and preference Shares, the Bonds and the other obligations of the Company, are exempt from paying any taxes, with the exception of the stamp tax. It may be said in passing, that this exception, in the way in which it is formulated, lends itself to various interpretations, for which reason it is now the custom to declare in other kind of contracts, that the exception should include all imposts that are collected in the form of *estampillas* (stamps).

»Amongst the exemptions granted in those concessions, exists one which ought to be suppressed; it is the one of all kind of harbour-dues on the ships arriving with cargo of effects destined for railways. In the first place, because it is not an exemption that may be reckoned in such important amounts as to have any influence on the success of the Company, and in the second place, it does not seem right, that in order to stimulate the construction of railways, the Government or the enterprising Companies should be deprived of the resources which precisely have for their object to favor the construction of the harbour-works which are complementary to the railways.»

As we have already said, these ideas were approved by the President and the Council of Ministers, and putting them at once in action, the framing of the general law on railways was proceeded with, which, being promulgated on the 29<sup>th</sup> of April 1899, governs us since then on this important matter.

\* \*

Our readers may consult, in the pages of this book, a general map of Mexican Railways, up to April 1899, by which, better than by our descriptions, they will be able to form an idea of our railway system. We have, however, to point out, that since that time, and within the general plan of the law of 1899, amongst others of less importance, the line of Córdoba on the Mexican Railway from Veracruz to Santa Lucrecia, has been constructed, being a station on the Tehuantepec Railway; that the Central Railway has constructed a branch line from Guadalajara, touching at Sayula, Zapotlan and Ciudad-Guzman and Tuxpan, which will join the already existing line from Manzanillo to Colima, before the end of 1903;



plete; and with those resulting from the premium on gold, it is easy to arrive at \$ 70,000,000 as the cost of a railway of 309 kilometers, which will have to compete with that of Panamá, measuring only 50, and almost sure with the canal which the United States seem resolved to open in the Columbian Isthmus.

Will the advantages, which we hope to obtain by the realization of our dream of national greatness, compensate such an enormous sacrifice, for which we should probably have had a very advantageous employment in constructing the line of Acapulco, that of Mazatlan or any other line to the Pacific coast, situated in a more central part of our territory? Some of our deep-thinking men (1) have doubted it, but their voice has been *clamantis in deserto*; but as it is not here in its place to enter into any argument, we shall limit ourselves in stating, that the fundamental reasons which have always solicited in favour of the Tehuantepec route on account of the oriental commerce, consist in its being shorter than those of Panamá and Nicaragua and that the region in which it is situated is less subject to the calms, which nearer to the Equator make the navigation of sailing vessels difficult and slow (2).

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In spite of its dryness, some figures will serve the reader to form a moderately approximate idea of the progressive development and of the state of the Mexican railways at the end of the XIX century.

The following diagram, the figures of which we have taken from various official publications, especially from the *Anuario Estadístico*, published by the Secretary of Public Works, will show the yearly growth of our railway lines, and that in the number of passengers, the tons of freight carried and in raw produce. Other dates would be of the greatest interest and would, for instance, be of great importance to know exactly the capital of each Company and the net receipts of the lines they exploit; unfortunately our statistics on this matter, as on many others, are still very incomplete and deficient, being preferable to omit them, as they would more than anything else serve to fall into errors.

Years	Kilometers	Passengers	FREIGHT Tons	RECEIPTS in pesos	Years	Kilometers	Passengers	FREIGHT Tons	RECEIPTS in pesos
1873	539.460	723.834	150.473	\$ 1,848,345'53	1887	6,445.678	3,602.203	1,477.587	\$ 12,344,305'02
1874	540.460	1,043.676	122.234	» 2,305,590'36	1888	7,427.058	3,931.597	1,820.850	» 15,090,203'42
1875	613.960	754.564	136.833	» 2,489,863'78	1889	8,055.750	4,304.865	2,126.805	» 17,618,383'86
1876	617.460	735.738	132.015	» 2,267,512'54	1890	9,306.312	5,490.652	2,734.430	» 16,743,221'32
1877	617.460	874.250	158.030	» 2,844,825'90	1891	9,846.774	6,022.142	3,232.969	» 22,565,506'32
1878	665.160	800.226	172.496	» 3,033,871'42	1892	10,265.607	5,223.050	3,191.021	» 24,103,768'30
1879	802.452	828.985	190.011	» 3,430,331'08	1893	10,430.033	7,050.865	3,705.700	» 24,513,143'91
1880	901.055	1,018.038	249.552	» 4,006,567'33	1894	10,351.411	4,237.169	4,120.631	» 23,049,052'47
1881	1,045.031	2,024.153	364.399	» 5,679,193'37	1895	10,337.468	5,693.475	4,073.350	» 27,733,854'00
1882	3,571,460	2,433,824	748.207	» 6,042,732'50	1896	10,846.967	4,949.011	3,987.760	» 30,017,644'30
1883	3,281,548	3,041,508	865.581	» 11,236,783'28	1897	11,512.783	6,373.123	4,878.474	» 34,067,350'20
1884	5,742,258	3,419,864	1,025.566	» 10,257,563'80	1898	12,079.628	6,373.240	6,077.677	» 38,274,778'74
1885	5,810,685	3,338.152	1,179.107	» 9,902,337'07	1899	12,544.394	8,068.267	5,424.693	» 44,046,053'40
1886	5,923,724	3,502.070	1,179.694	» 10,494,235'41	1900	13,615.342	10,709.462	7,522.923	» 49,423,478'02

Hence we insert a diagram showing the sums paid by the federal Exchequer for subventions to railways up to the 30<sup>th</sup> of June 1902. Mathias Romero, in his book: *Mexico and the United States*, published a diagram, and we understand no one had done it before him, stating the amounts received by the various railway Companies up to the 30<sup>th</sup> of June 1896, comparing it with the successive accounts to each one in the general Treasury of the Federation. We have completed it up to the same date of 1902 with data which we also owe to the kind deference of the same Treasury, which makes us believe, that the figures we put before our readers deserve all confidence. They are:

- (1) Amongst them the famous sociologist and engineer Francis Bulnes.
- (2) A detailed exposition of these reasons may be seen in the already mentioned short treatise of the engineer Mr. Salazar.

»The Federal Executive, having been authorized by the Congress of the Union to construct the Interoceanic Railway of Tehuantepec for account of the Nation, either by Administration or by contract, appointed a commission of engineers to study and to trace the line, assigned \$ 600.000 in England and the United States for the purchase of instruments, locomotives, utensils, tools, rolling stock, etc. He convoked afterwards bidders to contract for the works, electing from the proposals presented that of Delphin Sanchez, who contracted the work in 1882 on the basis of paying him \$ 25.000 per kilometer of line constructed, leaving for his account and charge all the amounts spent till then in purchases made by the Government, the sum of which was \$ 701.000. By this contract, only 108 kilometers in two sections were constructed.

»Neither was the railway finished under this contract, rescinding it in 1888, but not without the Government having had to spend \$ 1.434.000 for the payment of stored up material, for work executed and for the indemnification to the contractor.

»The result for the complete realization of the railway depended on getting the needful resources, and as the normal ones of the federal Exchequer were not sufficient, it was necessary to obtain the money in some foreign market by way of a loan. This was issued in London, Berlin and Amsterdam for £ 2.700.000 at 5 per 100 interest, on the mortgage of the railway itself, the Bonds being placed at 70 per 100 of its nominal value.

»The total proceeds of the said loan was destined for the construction of the line in a contract made to this effect in 1888 with the firm Mac-Murdo of London, which ought to have finished the work within two years and a half.

»The death of Mr. Mac-Murdo made it indispensable to rescind the said contract.

»A new contract of construction with Messrs. C. Stanhope, J. H. Hampson and E. L. Corthell made in 1891 fixed the conclusion of the works to fifteen months, applying for that purpose \$ 2.000.000, being the rest of the mentioned loan, they succeeded in constructing 250 kilometers of railway.

»This sum not being sufficient, the proceeds of an other loan for \$ 3.000.000 were assigned for the conclusion of the railway. Under a new contract made with Mr. C. Stanhope, this important line was happily concluded on the 15<sup>th</sup> of October 1894, the length of which is 309 kilometers and 617 meters.

»The exploitation of the railway required the acquisition of an equipment which the Government was not in a condition to make for cash. This was the reason that propositions made in 1896 were admitted, directed to provide the line with the rolling stock and other necessary implements for the service and exploitation of the line. The payment for the orders given were made in successive installments at a moderate rate of interest on the «none-paid» amounts. The exploitation of the railway and the preservation of the line was made by an official inspection appointed by the Government, up to the 15<sup>th</sup> of December 1899.

»The Mortgage of the National Railway of Tehuantepec and its dependencies, raised in virtue of the loan of £ 2.700.000, which has been mentioned, was paid off at the time of the conversion of the exterior 6 per 100 Debt, because the Mortgage Bonds issued were included in it. From the second half of December 1899, the Company formed by Messrs. S. Pearson and Son L<sup>d</sup>, of London, took charge of the reconstruction, preservation and exploitation of the line, as agents and mandataries of the Government, including under a separate contract the contracts of the works in the terminal ports of Salina-Cruz on the Pacific coast and Coatzacoalcos on the Gulf of Mexico, the principal works of which will be finished in the first four years and in its totality within seven years.

»The federal Government and the expressed Company, made a company contract for the exploitation of the mentioned railway and ports for a period of fifty years.»

Collecting it into one sum, we do not think, that according to the most optimistic calculation, it will not be lower than \$ 30.000.000, that which the Exchequer has paid already and will have to pay for the contract with Messrs. S. Pearson and Son, to that just alluded to, by which, if this sum is only added to those which Mr. Salazar, the engineer, supplies, which, we understand, are far from being com-

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Communications and Public Works

**National Railway of the Isthmus of Tehuantepec.  
Santa Lucrecia Bridge**

FROM A PHOTOGRAPH BY WATSON







candon and Angel Lerdo de Tejada, and having passed in the hands of an English Company, has changed all its lines, being to-day worked by electric traction.

Years	Kilometers	Passengers	GROSS RECEIPTS IN PESOS	Years	Kilometers	Passengers	GROSS RECEIPTS IN PESOS
1873	38,728	3,728,153	\$ 2,877,02	1881	15,568	1,12,575	\$ 690,10007
1874	38,728	3,728,153	\$ 2,877,02	1882	15,568	1,12,575	\$ 690,10007
1875	38,728	3,728,153	\$ 2,877,02	1883	15,568	1,12,575	\$ 690,10007
1876	38,728	3,728,153	\$ 2,877,02	1884	15,568	1,12,575	\$ 690,10007
1877	38,728	3,728,153	\$ 2,877,02	1885	15,568	1,12,575	\$ 690,10007
1878	38,728	3,728,153	\$ 2,877,02	1886	15,568	1,12,575	\$ 690,10007
1879	38,728	3,728,153	\$ 2,877,02	1887	15,568	1,12,575	\$ 690,10007
1880	38,728	3,728,153	\$ 2,877,02	1888	15,568	1,12,575	\$ 690,10007
1881	38,728	3,728,153	\$ 2,877,02	1889	15,568	1,12,575	\$ 690,10007
1882	38,728	3,728,153	\$ 2,877,02	1890	15,568	1,12,575	\$ 690,10007
1883	38,728	3,728,153	\$ 2,877,02	1891	15,568	1,12,575	\$ 690,10007
1884	38,728	3,728,153	\$ 2,877,02	1892	15,568	1,12,575	\$ 690,10007
1885	38,728	3,728,153	\$ 2,877,02	1893	15,568	1,12,575	\$ 690,10007
1886	38,728	3,728,153	\$ 2,877,02	1894	15,568	1,12,575	\$ 690,10007

It is now forcibly time to put a stop to the description of our railways, though it be far from being complete.

From the economical point of view, it seems useless to repeat, that they have been a most impor-



National Railway.—Bridge over the river Grande Laredo, on the Northern frontier  
*from a photograph by W. A. L.*

tant factor of our progress. Without roads nor river communications, our social organism was compressed like those Egyptian mummies, which the insatiable scientific curiosity of our days has drawn out of their multiseular tombs. Once the ligatures untied, the arteries became enlarged, through which, before that, hardly a little discolored and poor blood had circulated, and life commenced making itself felt in consequence of it. At the shrill sound of the whistle of the locomotive-engine, crossing through many

parts of the territory, the Nation woke up from its long sleep, the exploitation of every specie of richnesses was made possible, which were formerly out of the reach of human work; real deserts have been fertilized through it, and in short, the movement, the activity and the characteristic ardor of the sound organisms have extended themselves over all the circuits of the country. It is therefore not in vain, that we sons of the land are saying: «that with the railways we have been born to the life of civilized nations.»

Neither has the transformation been less complete from a political point of view. Up to a few lustros ago, whatever the form of the national government might have been, it hardly passed beyond being a mock-king, whose authority was impudently scoffed at by conscienceless military men, though with some prestige, and political men whom it pleased to convert themselves either alone or in coalition with others, in leading authorities (caziques) or petty kings of some district, covering themselves by turns with the cloak of any official investiture; others throwing themselves openly in arms with the help of anarchical elements which unfortunately abound in a society without culture, discipline or cohesion. And when the Government had notice of the resistance or rebellion, getting ready to domineer it, it was too late; the fire had spread and it was impossible to extinguish it, on account of the want of energy in the means of action, which through the slowness were completely inefficacious. To-day, things have radically changed: in order to dictate a law of national interest within its faculties, it is not necessary for the Powers of the Federation to ask previously permission of the prestigious generals, neither of the govern-

SUBVENTIONS PAID TO RAILWAYS BY THE FEDERAL TREASURY UP TO THE 30<sup>th</sup> OF JUNE 1902

NAME OF THE RAILWAY	MONEY OR CUSTOM-HOUSE CERTIFICATES	6 AND 5 PER 100 BONDS REDEEMABLE AT PAR	TOTAL PESOS	INLARS
Mexican (Mexico to Veracruz via Orizaba and Córdoba). . . . .	\$ 13,685 194.59		\$ 13,685.194	59
Progreso and Mérida. . . . .	" 218 718.00		" 218 718	00
Hidalgo. . . . .	" 947 296.37		" 947 296	37
Veracruz to Alvarado. . . . .	" 394 000.00		" 394 000	00
Mérida to Peto. . . . .	" 572 443.85	\$ 203.750.00	" 871.195	85
Interoceanic (Veracruz to Mexico via Jalapa and Branches). . . . .	" 6 356 377.74	" 180 000.00	" 6 536 377	74
Tehuantepec (National Property). . . . .	" 15 119 285.3	" 33,088.700.00 (1)	" 45 708 428	53
Sinaloa and Durango. . . . .	" 557 343.00		" 557 343	00
Mexican Central (Mexico to Ciudad-Juárez and Branches). . . . .	" 21,520 007.25	" 2,320 000.00	" 23 840 007	25
Mexican National (Mexico to Laredo and Branches). . . . .	" 11,929 870.00	" 380 000.00	" 12,309 870	00
Sonora. . . . .	" 2 171 310.60		" 2 171 310	60
Mérida to Valladolid. . . . .	" 615 608.00	" 312 550.00	" 928 158	00
Tlamanalco. . . . .	" 159 000.00		" 159 000	00
Mérida to Campeche. . . . .	" 880 915.00	" 243 750.00	" 1,124 665	00
San Marcos to Nautia. . . . .	" 70 500.00	" 349 000.00	" 419 500	00
San Juan Bautista. . . . .	" 20 125.00		" 20 125	00
Chichicomula. . . . .	" 22 838.65		" 22 838	65
Taxcala and Santa Ana. . . . .	" 28 000.00		" 28 000	00
Cárdenas to Rio-Criajalva. . . . .	" 33 750.00		" 33 750	00
Toluca to Las Huertas. . . . .	" 40 250.00		" 40 250	00
Vanegas, Cedral, Matehuala and Rio-Verde. . . . .	" 341 000.00		" 341 000	00
Mérida to Sotula. . . . .	" 395 088.00		" 395 088	00
Mexican Southern (Puebla to Oaxaca). . . . .	" 880 805.10	" 10,368 000.00	" 11,248 805	10
Tonalá and Frontera. . . . .	" 444 000.00		" 444 000	00
Monterrey to the Gulf of Mexico (Monterrey to Tampico). . . . .	" 5,534 572.24	" 5,534 572.24	" 5 534 572	24
Tecoluitla to the Espinal. . . . .	" 40 500.00	" 60 000.00	" 100 500	00
Córdoba to Tuxtepec. . . . .	" 408 000.00		" 408 000	00
Pachuca to Tampico. . . . .	" 665 000.00		" 665 000	00
Michoacán and the Pacific. . . . .	" 133 000.00	" 369 000.00	" 502 000	00
Mexican North Eastern. . . . .	" 204 000.00		" 204 000	00
Salamanca to the Valley of Santiago. . . . .	" 280 000.00		" 280 000	00
Veracruz to Boca del Río. . . . .	" 83 000.00		" 83 000	00
Tula, Zacualtipan and Tampico. . . . .	" 560 000.00		" 560 000	00
Lower California. . . . .	" 31 300.00		" 31 300	00
Montalto. . . . .	" 182 000.00		" 182 000	00
Mexico, Cuernavaca and Pacific. . . . .	" 5,225 800.00		" 5 225 800	00
Carbonifero de Oaxaca. . . . .	" 603 700.00		" 603 700	00
Chihuahua to the Pacific. . . . .	" 1,400 000.00		" 1,400 000	00
Ciudad-Juárez to Corralitos. . . . .	" 2,000 000.00		" 2,000 000	00
Veracruz to the Pacific. . . . .	" 3,569 500.00		" 3 569 500	00
Xico and San Rafael. . . . .	" 387 500.00		" 387 500	00
San Luis Potosí to Rio-Verde. . . . .	" 240 000.00		" 240 000	00
San Marcos to Tecoluitla. . . . .	" 150 850.00		" 150 850	00
Tacubaya to Santa Fe (Federal District). . . . .	" 16 800.00		" 16 800	00
	\$ 75,732,771.68	69,158,972.24	144,891,743	92

(1) This amount includes the £ 2,700,000, calculated only at the exchange of 24 pence, or at the rate of 100 per 100, or \$ 10 for each pound sterling.

The preceding diagram would suggest numerous reflections, but as the want of space obliges us to leave them to our readers, we shall only draw their attention to two facts, which ought not to be lost sight of. The first is, that besides the federal subvention, some of the lines have enjoyed one from the United States on which territory they established themselves; the consequence is, that the pecuniary sacrifice which the railways represent to the nation, is greater than the one inferred by the figures just inserted. The second one is, that the sum of nearly \$ 76,000,000 which the federal Exchequer has paid in cash, has not all been covered by the ordinary resources of the Estimates of Revenues; for as we shall see in treating on the Mexican Public Debt, a gold loan for £ 6,000,000 was made in 1890, the proceeds of which were applied, at rather a high discount, to the payment of the subventions which ought to have been paid off, in the course of many years, at a certain percentage of the custom-house duties. We do not now attempt to form our opinion on that operation, which was criticized by many, principally on account of making a silver Debt payable in gold, but we only wished to point out the important part, which in the total bulk of the Mexican Public Debt, amounting to-day to \$ 400,000,000 approximately, played the effort made by the Republic on behalf of its railways.

On the right occasion, we shall produce proofs to support the fact and explain how and why we Mexicans came to owe that enormous sum, considered still by many near sighted persons as excessive and disproportionate to our resources.

We are now short of space to occupy ourselves in studying the industry of the town railways or trams and therefore we shall have to limit ourselves in saying, that there is hardly a city or town of any importance in the Republic that is not provided with them. In order to give an idea of its progress, we give herewith a diagram referring only to the strongest and most prosperous of this kind of enterprises, i. e. the *Federal District Railway*, founded by the Mexicans, Raymond G. Guzman, Anthony Es-



\$ 20,000 per circular voyage and a great number of privileges was granted, the least of which was certainly not the one of an abatement of 2 per 100 on the import duties on the goods carried by this line. Either through the inexperience of our capitalists in this kind of enterprises, or on account of the little punctuality with which the subvention was paid, or through competition made to the new line by those already established, or through all these reasons together, it is certain, that this trial was but of a short duration and the beautiful steamers that formed the fleet of the new Company were adjudged in England to pay the Mortgages that weighed on them, the Company being afterwards declared in bankruptcy. *The Spanish Transatlantic Company* inherited partly the concessions which this Company enjoyed, though with a less subvention, which a few years afterwards and at the expiration of the contract was left off



The port of Veracruz From a photograph by Briquet

being paid, returning our Government to the sound policy which it had up to then followed, in not sacrificing the few resources of the Treasury to assist enterprises which for its own interest made the European traffic. This policy has not been the same in relation to the lines, which, either by the Pacific or by the Gulf of Mexico, have put us in communication with the United States; the phenomenon is at first sight inexplicable considering our proximity to that powerful Nation. However, if we take in account the exiguity of our maritime traffic on the Pacific, which exacts the pecuniary aid of the Government so as to make it pay, and the advantages which our Gulf States, especially Yucatan, have derived from the establishing of regular lines to the United States, producing a considerable development of the tropical agriculture in those regions, it must be owned, that our Governments have not erred in this line of conduct, with so much more reason, as in proportion to the increase of our productions in our Gulf States, the subventions to American lines have diminished, even so as to have entirely disappeared a good number of years ago.

On the other hand, the efforts of our governments have systematically been directed since then, and especially since the creation of the Secretaryship of Communications and Public Works in 1891, to favor the maritime traffic on the Pacific, not only with San Francisco in California, but also with some ports

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Communications and public works

**General Francis Z. Mena**

MINISTER OF SAID DEPARTMENTS









of Central and South America, as far as Valparaiso. Unfortunately, the backwardness in which those regions of the Republic still find themselves, in many parts no doubt on account of their incommunication with the interior of the country, and the almost absolute absence of connections with our sisters, the Republics of Spanish origin, a lamentable result of the jealous colonial policy, which prohibited the communication between the various dependencies of the Crown, gives very little vigor to the Navigation Companies which established themselves on the Pacific and which have us almost exclusively in the hands of the American Company, named the *Pacific Mail*, which, in connection with the Panama Railway, runs between this Columbian Isthmus and San Francisco, calling monthly at our principal ports and at some of Central-America. Other Navigation Companies, nearly all Mexicans, put our Continental ports and those of the Lower California Peninsula in communication, laboriously creating a traffic, the future of which will depend on the success which the railway lines, directed to various points on our Pacific coast, especially to Manzanillo and Salina-Cruz, may have. At present the Public Treasury spends \$ 152,230 yearly in subventions to lines of navigation (1).

The general map of the Republic, which our readers will find between the pages of this book, indicates the greater part of the steamship lines, which regularly and periodically put our coasts on both Oceans in communication; besides, already in the part relative to the Mexican commerce, we inserted some figures showing the number of ships that entered and left our ports during the last years, as well as the number of passengers and the freight carried; this will excuse us from entering here in greater details, which would only constitute useless repetitions.



Veracruz.—General Direction of Light-houses  
(being constructed by the engineers Echagaray and Lattine)

The efforts made by our governments to develop the maritime communications of the Republic did not limit themselves to concede to the Navigation Companies direct pecuniary help, but that the last few years, and above all since the creation of the Ministry of Communications and Public Works, it has contrived to better the conditions of our coasts with incontestable effect, supplying them with lights as well as those of our principal harbours, undertaking works of the greatest importance and worthy of special mention. Improving in a considerable manner the general conditions of navigation and facilitating access

(1) A line of Anglo-Chilian steamers, which, receiving a pecuniary subvention, put us in communication with various South-American ports as far as Valparaiso, has just suspended its service. On the other hand, a Chinese line is in negotiations with the Government to sail regularly between our ports and Hong-Kong, which will re-establish our direct commerce with the extreme East, and which has been entirely interrupted since the Independency of the old New Spain left this to be the channel through which the Metropolis was in communication with its Colonies in the Philippine Archipelago.

to our ports, the maritime communication has developed in this way, without creating any privileges, always very odious, in favour of companies or of any special concessionaries.

Very little had been done the last few years to this effect, which is eloquently proved in the four memorials presented to the Congress of the Union by General Francis Z. Mena on the works done in the Department of Communications and Public Works, of which he has been at the head since 1895 and which embrace the passed ten years from the 1<sup>st</sup> of July 1891 to 30<sup>th</sup> of June 1901. From them we take the particulars which our readers will find in continuation.

In the Vice-regal epoch, only the light-house of the castle of San Juan Ulua in Veracruz was lighted up. After the Independency, some of the ports on the Gulf of Mexico were supplied with light, claiming it urgently, on account of its local interest, and until 1876, when the period of peace commenced, the light-house «Benito-Juarez» in Veracruz and those of Sisal, Campeche, Xicalango and Progreso were lighted up. From 1876 to 1891 seven lights were lighted up, but a general plan of illumination was never followed.

It was really the Department of Communications and Public Works which caused the service of the light-houses to exist; it has the construction and preservation of them in charge as well as that of the port-lights, harbour-signals and buoys and the care of their administration.

The service has a general Direction; the coasts are divided in two districts on the Atlantic Ocean and two on the Pacific, having in each of them an office of inspection with the necessary engineers.

The ports on the Atlantic have had a greater traffic and number with better lines of communication with the inland than those on the Pacific; and as the coasts of the former are low, with numerous submarine reefs or difficult to see at day time, it was necessary to give them the preference and to make, therefore, a general project of illumination for the Atlantic coasts.

For the study of this project, and profiting by the experience acquired by other nations, the fixed lights were suppressed, the apparatus of illumination with groups of flash-light, as well as fixed lights with occultation groups were adopted, so as to avoid the necessity of measuring the time in order to find out the light-houses. Plans for lights of an equal characteristic feature at greater distances from the deviation, which the ships may take in their course, were drawn up, and in the placing of the lights, preference was given to the inshore light-houses of greater range.

This project is being developed, with the object of protecting the whole coast with a luminous bar, but wishing to avoid the danger as soon as possible, light-houses of a provisional character are being to-day placed on inshore points and in some of those mostly dreaded by mariners, of a fourteen miles range, which will be utilized in secondary places till they are replaced by the definite ones.

In this manner, the lower parts of the Sound of Campeche are being supplied with lights; in the fiscal year of 1899-1900 alone, seven light-houses on the east coast of Yucatan have been lighted up.

Profiting by the latest improvements attained abroad in the matter of illumination, the permanent luminous harbour-signals, fed by petroleum and moved by electric cells have been adopted, as well as luminous buoys also fed by petroleum, being more economical and easier to handle than electric buoys and those fed by compressed gas.

The Government preferentially devoting itself to the illuminating of the Atlantic coast, has naturally been lighting up first Veracruz, which, besides being the principal harbour on account of its great movement of national and foreign shipping, is the one that is surrounded by more dangers; the desired result has been attained, for the said port can be approached to-day with as much safety by night as it is by day. Some supplementary lights, which will soon be working, will make Veracruz and its vicinity as well lighted up as any of the most important harbours of other maritime nations.

As the Tehuantepec railway is shortly to be opened to international traffic, and as there are various railway lines in construction which will put the inland in communication with various ports on the Pacific, the Direction of Light-houses is employed in illuminating and in fixing harbour-signals along its coasts.

The following diagram gives a full conception of the development of the service of light-houses from 1891 to 1901:

	1891	1901
Light-houses. . . . .	13	38
Harbour-signals and buoys . . . . .		24
Length of illuminated coast in nautical miles . . . . .	277	785
Surface of illuminated sea in nautical miles . . . . .	2,795	12,371
Offices . . . . .	1	5
Engineers engaged in the service . . . . .	1	13
Managers, clerks and servants . . . . .	1	52
Ships in the service. . . . .	»	3
Tonnage of the fleet. . . . .	»	820
Crew. . . . .	»	72
Light-house keepers . . . . .	16	101
Annual estimates of construction . . . . .	\$ 20,000	\$ 250,000
General estimates in one year . . . . .	» 42,972'82	» 577,093'05

During the year 1902, the fleet has been increased by a towing steamer, exclusively devoted to the service of illuminating Veracruz and Anton Lizardo, and a pilot's boat for the Pacific coast; also an order has been given for the construction of a 1,000 ton steamer destined to the service of the light-houses on the same shore. Four light-houses are being constructed on the Atlantic shore, six port-lights, two luminous buoys and some other ordinary buoys; on the Pacific coast, three light-houses and two port-lights are being constructed, and various projects are being studied for light-houses and for the placing of harbour-signals. The general estimates from the year 1902 to 1903 is \$ 661,952'85 and this figure alone, if it is compared with that which has been spent eleven years ago, is enough to show the development that has taken place in this important branch of the public service.

As we have already said on different occasions in the course of this work, our Atlantic coasts are not very favorable for the construction of good natural harbours, and, therefore, it has been necessary to undertake works of great importance in order to improve, or better said, to form them.

As it was to be expected, this kind of work was commenced in the port of Veracruz, and nothing could give a better idea of it, than the superficial description given by the engineer Mr. Nicolau in his speech made at the opening of the works on the 6<sup>th</sup> of March 1902, attended by the President of the Republic, General Porphyrius Diaz, his Ministers and a numerous assembly of distinguished personalities. Mr. Nicolau expressed himself in the following terms, for the perfect understanding of which, the reader may consult the plan of the harbour of Veracruz, which he will find in these pages:

«It was in the year 1808 when Ceballos, Commodore of the Navy, proposed to close the *Northern channel* so as to protect the anchoring-ground. Francis de P. Arrangoiz, being Minister of Finance, proposed the same idea later on. Both of them judged this work as indispensable, but did not think it to be realizable on account of its magnitude and cost.

»The want of resources and credit, since the Independency to 1876, did not allow thinking of the works which Veracruz demanded so as to be worthy of the name of a harbour.

»The engineer Peter J. Senties presented a project, two years afterwards, to the Minister of Public Works for forming an outer port with two dike between *Blanquilla*, *Galleguilla* and *Gallega*, and proposed the construction of two break-waters, resting on *la Caleta* and *la Gallega*, which opposed the entrance of the waves without impeding that of the currents.

»On the initiation of the Veracruz Town-Corporation, presided by Dominic Bureau, its Chamber of Commerce, its always busy population, and received with due interest by the Minister of Public Works,



General Charles Pacheco, the study of a plan of works was thought of in 1880, so that, with the enormous outlay of money which would have to be spent, the desired result might be attained.

»In February 1881, the Town-Corporation consulted the mariners anchored in the bay with regard to the project of the docks within the reef of *la Gallega*, drawn up by Angel Ortiz Monasterio.

»The law was sanctioned in the same year, so that the Executive of the Union might give out the contract for the improvement of the harbours, authorizing the Veracruz Town-Corporation to study a project and the execution of the necessary works.

»The preliminary studies were made by A. J. Wrosnourski and the engineer Louis E. Villaseñor.



The Sacrificios light-house (Veracruz)

»In consulting Captain Eads, he presented a project which principally consisted in a break-water to close the *Northern channel*, with flood-gates (locks) in its higher part, in order to let the currents pass; in a dike on *la Gallega*; an other one from the same reef to *la Lavandera*, so as to protect the harbour from the East; and in a wooden way going parallel with the beach in five meters of water, joined to the shore and from which, as well as from the North-Eastern dike, the necessary wharves for the ships would divide.

»The project and the estimates, which amounted to \$ 7.197.600'83, were approved in July 1882, and on the 10<sup>th</sup> of August the first stone was laid near the castle of Ulua amidst the just rejoicings of the population of Veracruz, restrained by its realization and the well founded hope of having secured the future of the harbour.

»But the enterprise proved to be too great for the resources at the disposal of the Corporation; the work went on slowly, the useful purpose of the works was lost to a great extent by the very action of the storms, and this was forcibly the reason that more time and money

was spent to finish the works. However, some deficiencies were observed in Ead's project as much in tracing the works as in the election of the material.

»In a new project, Mr. Thiers, the engineer, proposed to close the *Northern channel* completely and to suppress the greater part of the dike on *la Gallega*, with the object, that the current, agitating the water in the bay, might pass there where the drainage of the town arrives at; he also projected a break-water, which, parting from *la Gallega*, should leave open an entrance channel to the North of *la Lavandera*, besides the one that existed to the South. An anteport and two harbour-basins were included in the project; the most characteristic in it was, that all works had to be executed with large blocks of hydraulic lime-stone and sand, entirely excluding the use of wood. The estimates came to \$ 10.052.727.

»This project was submitted to the opinion of a Commission composed of the engineers Joseph Mary Velazquez, Leander Fernandez, Vincent Mendez and Peter J. Senties.

»Remembering the difficulties that exist in projecting maritime works in countries where the system of the coasts are not known and where there are no competent persons with whose opinion the resolution

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**Plan of the Harbour Works of Veracruz**









of these problems may be presumed as feasible, this Commission showed, that these difficulties were greater in our country for want of the indispensable data in order to study a project properly.

» It studied the plans made by Eads and Thiers; one of the principal reforms proposed, was the construction of the South-Eastern dike, from the beach of *Hornos* to *la Lavandera* so as to re-establish the equilibrium broken by the construction of the North-Eastern dike, avoiding the entrance of the Southern current and as a consequence, the obstruction of water conduits that might be produced.

» The Commission preferred the idea of Eads for the interior works. It considered, that the surface gained over the sea, between the beach and the embankment, after being filled up, would represent a value of \$ 4,000,000 to the Government, and it recommended, that the wharves should be built with iron pillars. In consequence of this opinion, the Corporation transferred the concession to Thiers.

» An other contract was made in 1884, reforming the one of 1883, and specifying, that the break-water of the North-East should be finished by 1889 and the rest of the works in 1895.

» Neither did this time advance the works with the necessary activity.

» This was the reason, that in 1887 and 1892, other contracts were made with Augustus Cerdan for the construction of the North-Eastern dike and the one of *la Gallega* and for the dredging; it was also stipulated, that the works should go on without interruption so as to be finished in 1894, but only the principal dike in its whole extent to the low-water mark was finished.

» In the meantime, the inspector of the works, Emilius Lavit, an engineer, traced, with better data and observations, the project which we to-day see realized.

» Decided to give an impulse to the development of the country's best materials, the then recently formed Ministry of Communication and Public Works gave prominent attention to the works initiated in this harbour, making a contract with Messrs. S. Pearson and Son, Ltd., in April 1895, so as not only to finish the outer works, giving shelter and security to the harbour, but also to the interior ones, serving to facilitate shipping operations.

» Gentlemen, we have just seen, that the works are nearing their desired completion; we have seen it with the greatest satisfaction.

» The great North-Eastern dike and that of *la Gallega*, protect the port against the impetuous waves and currents, which the furious winds from the *North*, justly dreaded in the Gulf, are causing. The break-water of the South-East, from *Hornos* to *la Lavandera*, protects it from the obstructing currents coming from that course; and besides, that the circle of reefs, which extend to the East, diminish the action of the sea, it is also opposed by the break-water of the North-East, which, with the former, limit the entrance to the harbour, leaving a channel of 250 meters wide by 10 in depth.



The Light-house of Tampico

»These are the outer works. The interior ones, consist in a series of embankments or walls, which form the boundary of that part of the Bay, and which, on account of its bottom or depth, was not suitable for navigation; some of them serve to form harbour-basins and to impede the agitation of the waters, others to receive the wharves, necessary for commerce. These embankments have a total extent of 3,000 meters; close to those running parallel with the beach, the depth is three meters, which increases to 8<sup>m</sup>50, where the metallic wharves will be erected; the walls of the normal embankment to the beach, situated between the harbour-basins of the North and the Centre, are constructed 10 meters deep and form the principal wharves of the harbour.

»This depth was given, in order to satisfy the necessary wants for at least half a century. The increase in the draught of the ships, allows that of the tonnage and that in the economy of the transports; but the increase taken place during the last 50 years, forecasts, that the limit will be of 10 meters, and therefore the harbour which has not at least 9, will not be able to place itself amongst the most important of the world.

»Depths from 8<sup>m</sup>50 to 10 meters have been obtained in various places by five dredging-machines, extracting 6,500,000 cubic meters of sand and 46,640 of madrepores (white corals).

»A large part of this sand served for making the esplanade between the embankments and the old beach, which has an area of 630,000 square meters; this esplanade will preferentially be used for the warehouses and federal buildings, and having rails laid down, joining the wharves and warehouses, will facilitate the movement between the ships and railways.

»The area of the harbour has 175 hectares (equivalent to 432  $\frac{1}{2}$  acres); 28 of which form the anteport, 30 the harbour-basin for the repairing and building of ships, 72 are destined for wharves, able to receive 30 ships at one time, and 45 to the communicating channel.

»So as to give an idea of the magnitude of these works, it will be sufficient to say, that 531,000 cubic meters of natural rock and 628,000 of artificial stone have been employed, the expenditure being 30 million of pesos.

»The harbour-works themselves have been finished.

»The dikes and break-waters have resisted the force of the great storms; no obstruction to water conduits in the inner, nor in the outer part of the harbour has taken place, and for that same reason, it is to be presumed, that the expenses for the preservation of the works and the depths, will be of little amount.

»So as to increase the utility and importance of the harbour, a dry-dock, 180 meters long by 24 wide is projected, capable to hold the large steamers which at no remote time will go in it. But the indispensable completion for the usefulness of these works, are those referring to public health and the provision of drinkable water for the town, which, for this reason, are already in course of construction.»

In fact, the sanitary condition of Veracruz has always left much to be wished for, especially on account of the *vomit* or yellow fever, a dangerous disease which is endemic, imbibited during the summer and attacking, almost without exception, all those that are not natives of the Gulf coasts. Baron de Humboldt already spoke in his *Political Essay on New-Spain* of this veritable affliction of Veracruz, which sometimes reaches as far as Córdoba and Orizaba; for which reason, both the federal Government and that of the State, have united their efforts with the object of bettering the sanitary condition of the town, in laying tubes for its drinkable water and endowing it with a good system of sewers.

These important works, already sufficiently advanced, were contracted with Messrs. S. Pearson and Son, Limited, of London about the middle of 1901, and to cover its costs, the Government of Veracruz issued five million pesos in 5 per 100 silver Bonds, redeemable with the 2 per 100 of the import duties, which the federal Exchequer receives in the harbour, corresponding by law to the Municipality of the locality. The interest on the Bonds in circulation are being and will be paid by the Federation during the period of twenty five years, which has been considered sufficient for the redemption of the said Bonds, for the proceeds of the 2 per 100 import duty is never lower than \$ 200,000 per annum.

But let us now pass on and follow the works undertaken in other harbours of the Republic.

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**Drag-boats « México » and « Veracruz »**

EMPLOYED

AT THE GREAT WORKS OF THE PORT OF THAT NAME



disappearing, above all through the impulse of a strong and abnormal freshet that happened in 1893, carrying away a bank formed around the hulls of the sunken ships which years ago had stranded and which was commenced to be removed with difficulty by means of powerful explosives.

Every day, therefore, ships of greater draught have penetrated into the channel, measuring 200 meters wide and two kilometers long, with a minimum depth of 7<sup>m</sup> 31; the Company having received the amounts promised, less the \$ 210,000 for not having finished certain revetment and consolidating works which the Government esteemed to be indispensable. Also interior works of importance have been executed, and extensive buildings for custom-house services have been constructed, which complete the improvement of our second harbour on the Atlantic, the future of which has been considered so sure by the Central Railway Company, that at this present moment (December 1902), as we have already said, it is busy in constructing a line, putting it in direct communication with the Capital.

\* \* \*

Other Gulf ports have also been the object of attention from our Government, though on a much smaller scale than the one of Veracruz and Tampico. Without referring ourselves to Coatzacoalcos, of which we shall speak later on, Progreso, Laguna, Campeche, San Juan Bautista, Tuxpam and Frontera have erected wharves and warehouses, generally through the effort made by local enterprise, to which the use and exploitation of them has been conceded for periods in proportion to the importance of the capital invested in the works; and although with a slowness, dictated by a prudent and judicious foresight, the improvements already realized in this matter, show, that the regeneration to economic life is producing an effect in the country simultaneously in the most various branches and in such sound conditions, that it constitutes the best augury for the future.

\* \* \*

Of our continental ports on the Pacific Ocean, only Manzanillo and Salina-Cruz are on the way of being improved, for which reason, they will be the only ones, for the present, that communicate or will soon do so by railway with the interior of the country.

The works of Manzanillo have been contracted with a North-American Company and principally consist in the construction of an embankment or break-water and various wharves for the service of the harbour and also in the canalization of two marshy lakes surrounding the town and those of Cuyutlan and San Pedrito, which make them unhealthy. The cost of these works have been estimated at \$ 5,732,760, of which, and up to the 31<sup>st</sup> of December 1902, \$ 2,954,499<sup>88</sup> have already been spent, and it is hoped, that they will be finished by the time, when the railway, which the Central Railway is constructing from the town of Guadalajara, as we have already mentioned at an other place, reaches the port.

Of greater importance, are the works that are being executed in Coatzacoalcos and Salina-Cruz, the two terminal harbours of the National Railway of Tehuantepec, the contract for which has been made with the already mentioned English firm S. Pearson and Son, Limited, comprising the water-supply, sanitary works, such as the construction of sewers and drains, the desiccation of the neighbouring marshes, the leveling of the streets and it might almost be said, the actual formation of populated places where to-day they are hardly in a state of embryo.

It would be useless to give here a detailed description of such works, as it is possible that they may be carried out with some alterations from the approved projects; in order to give an idea of its importance, it will be sufficient that we insert a calculation of its probable cost, framed in the 1<sup>st</sup> Section of the Department of Communications and Public Works, which we owe to the courteous amiability of the eminent and intelligent head of the said section, Lewis Salazar, engineer, who has furnished us with the following figures:





## COATZACOALCOS

The Eastern and Western embankments . . . . .	\$ 4,200,000'00
Steel wharves . . . . .	» 2,700,000'00
The plant and additional installations . . . . .	» 375,000'00
Harbour equipment, etc. . . . .	» 375,000'00
Refilling of the marsh . . . . .	» 351,580'00
Twelve kilometers of railway-line behind the wharves . . . . .	» 120,000'00
Water-supply . . . . .	» 228,941'00
Drainage . . . . .	» 414,265'00
Two light-houses . . . . .	» 20,000'00
Leveling of the streets, etc. . . . .	» 175,000'00
AMOUNT. . . . .	<u>\$ 8,959,786'00</u>

## SALINA-CRUZ

Break-water and light-house . . . . .	\$ 10,250,535'00
Harbour-basin . . . . .	» 5,805,187'50
Entrance to the harbour-basin . . . . .	» 144,000'00
Dredging . . . . .	» 3,200,000'00
Dry-Dock . . . . .	» 4,019,465'00
Provisional wooden wharf . . . . .	» 150,000'00
Water-supply . . . . .	» 174,430'00
Drainage . . . . .	» 238,580'00
Leveling of the streets . . . . .	» 51,417'38
Plant and additional installations . . . . .	» 375,000'00
Harbour equipment . . . . .	» 375,000'00
Twenty kilometers of railway . . . . .	» 200,000'00
AMOUNT. . . . .	<u>\$ 24,983,614'88</u>
	<u>\$ 33,943,400'88</u>

From these sums, the total amount of which is . . . . .

\$ 4,237,399'11 (1) have already been spent, to the 30<sup>th</sup> of June 1902.

Our other ports on the Pacific, the most important of which are Acapulco, Mazatlan and Guaymas, the last one being joined by the Sonora railway to the frontier town of Nogales, which again is joined to the United States Railways, present rather good natural conditions; and although some of the necessary works, principally those of facilitating the loading and unloading of goods, are included in the programme traced by the Federal Government for the improvement of our ports, its execution has been postponed, as being of less urgency than those already finished or on the way of being so, in expectation of the natural and progressive development of our fiscal resources.

This imperfect review of the improvements, which in our ports have been carried out for the last few years, would not be complete, if we were not to say a few words on the works undertaken in the little port of Santa Rosalia in the peninsula of Lower California, a few leagues to the North of Mulege.

(1) These figures are more approximate than those we had before us on previous pages in the estimates of the probable cost of the National Railway of Tehuantepec, with the terminal ports, indispensable so as to render the services to international commerce, which it is expected to derive from it. Therefore, we have to rectify the figure of \$ 70,000,000 which we gave, raising it at least to \$ 80,000,000, made up in the following manner:

Already spent on the railway up to 30 <sup>th</sup> of June 1902, according to the diagram of	
subventions to railways, inserted at the end of the previous chapter . . . . .	\$ 45,708,428'53
Probable cost of the Coatzacoalcos and Salina-Cruz works . . . . .	» 33,943,400'88
AMOUNT. . . . .	<u>\$ 79,651,829'41</u>





the kingdom, at distances of six miles from each other, where the postmen were stationed, always ready to start. When the first postman was despatched, he went as fast as possible to the first station or tower, communicated the message to an other one, or delivered the pictures, if he carried any with him, that represented the news or the business and of which they made use instead of letters. The second run in the same manner to the next station, continuing in this way, however far the distance might be. Some authors say, that in this manner a message travelled a distance of three hundred miles in a single day. Motecuhzoma made use of the same means to provide himself daily of fresh fish from the Gulf of Mexico, which, by the shortest way, distanced more than two hundred miles from the Capital. These carriers practiced their calling from childhood, and in order to encourage them, the priests, by whom they were trained, gave prizes to the victors.»

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\* \* \*

During the colonial epoch, the office of Post-master general in New-Spain commenced to be one of the salable and transferable offices, that is to say, a monopoly put in the hands of a private person, who bought from the Crown the exclusive privilege of discharging at his own expense an assigned public service, in compensation of which he collected certain duties, at fixed rates or by special tariff. «The predefined rules, when this branch was established during the afflicted time of our monarchy,—says the Marquis of Sonora in his report to the Viceroy Anthony Bucarelli y Ursúa,—concerning the sales and transfers of all public offices, which, on account of their character, belong to the Crown, are the most proper and adaptable to the exact object of its institution, for at their first acquisition, the buyers pay the full price at which it was appraised by intelligent persons and officers of the Crown, in which generally underhanded business is going on, and in case of transfer, if it is the first, the Royal Treasury receives the half of the value and only a third part in the following; but when the holders die without making it, or fail to keep the formalities prescribed by law and Royal Letter Patents, the offices are cancelled and return to their origin to the benefit of the Royal Treasury.»

This was, therefore, one of the salable and transferable public offices, just as the *contracts* or the letting on lease of the imposts, one of the many fiscal measures to which those impoverished governments had recourse to in order to get momentarily out of trouble, without considering, that they only put the functions, which they ought to have exercised for the good of the community, in the hands of generally powerful private individuals, who did not remedy an evil, but only profited at the cost of those who were not so, making use of and abusing in the name of the King and as his representatives, the enormous privileges which he had reserved to himself for his service and that of his vassals.

To some of these public offices were conferred honorable employments of certain importance, and this happened, with the one of the Postmaster General of New-Spain, which carried with it that of perpetual magistrate of the City of Mexico, which did not prevent, that in 1604, for instance, that office was adjudged by public auction in favour of a young man, Alphonse Diez de la Rivera by name, who had not yet arrived at the maturity of age.

Curious in the extreme are the informations, which<sup>1</sup> on the Postal service in New-Spain and even in the Metropolis, we find in the already mentioned report of the Marquis of Sonora, and may the reader allow us to put before him the very words of the distinguished Joseph de Galvez, instead of the insipid extract which we might make, omitting only a few dates and references which would be void of any interest, preserving even the special (Spanish) orthography (and syntax) in which they were published by the Section for Public Works of the Ministry of State (Home Department) in the year 1867 (1):

(1) General information, which, in virtue of a Royal precept, the Marquis of Sonora instructed and delivered, being general Visitor of this Kingdom, to his Excellency the Viceroy Fr. D. Anthony Bucarelli y Ursúa, dated 31<sup>st</sup> of December 1771. Published by the Section of Public Works in the Home Ministry. Mexico. Printing office of James White, St. Clara Lane, n.º 9, 1867.

This port was opened in the year 1885, at the request of the French Company «El Boleo,» in order to facilitate, or better said, so as to make the exploitation of certain copper mines possible, which some few years before were discovered in those regions, close to the coast. This Company, the forming of which was favored by the National Government, granting it liberal privileges and exemptions, bound itself on principle to defray the expenses that the opening of the harbour may occasion, whenever the duties collected in it do not reach to cover them; but it was soon seen, that the custom house there, not only paid its expenses, but that it proportioned to the fisc amounts which sometimes came up to \$ 100,000 yearly, and the mining population of Santa Rosalía already amounts to more than eight thousand inhabitants, amongst which the Boleo Company distributed in wages alone, more than a million pesos a year.

The movement of the port, which on account of the want of a natural creek or gulf was fixed in an open roadstead, went on gradually improving, and in 1892 the Boleo Company made a contract with the National Government, *without any pecuniary help of any kind, but at its own expenses*, for the construction of a dike destined to protect the ships from the North Westerly winds, prevalent and dangerous during the winter in the gulf of California. The work was at once commenced, and not without difficulties was it continued till the dike reached a length of nearly seven hundred meters, of which more than four hundred in water, which reaches a depth of ten meters or more.

According to the fiduciary data at our disposal, the Company has up to now invested over a million pesos on this improvement, showing, therefore, to the National Government and to the Republic, that it has been deserving the privileges, protection and help which they have conceded it, and without which the exploitation of that mining wealth would have been impossible on account of its situation, which in one part of our territory is particularly barren, ungrateful and unprovided of all natural resource of subsistence.

To finish the imperfect review of our evolution in the matter of maritime communications, we shall have to mention the recent construction of a floating dock in Veracruz and of a launching place in Guaymas, which lend useful services to the ships, trafficking in both Oceans, when they are in need of repairs or their bottoms have to be cleaned. This improvement is also due to the efforts made by our Government, obliged to supply the numerous deficiencies of the individual initiative, still anaemic and indolent, with the resources of collectiveness of which it is the mouthpiece.

## CHAPTER IV

### POST AND TELEGRAPHS. TELEPHONES

IT is useless to say, that the postal service, in the way we conceive it in our modern times, was unknown by the primitive inhabitants of this soil. Judging, however, by the chroniclers and historians, there was an organization, at least for the service of the Mexican monarchs, which is described in the *Diccionario Universal de Historia y Geografía*, published by Mr. Emmanuel Orozco y Berra, as follows:

«The postmen employed with great frequency by the Mexicans, used different badges according to the news or business of which they were the bearers. If the news was, that the Mexicans had lost a battle, the postman wore his hair loosely, and arriving in the Capital, went straightway to the palace, where, in kneeling before the king, gave account of the event. But if, on the contrary, the news was of a battle won, he wore his hair tied together with a coloured string and the body girded with a white cotton cloth, in his left hand a shield and in his right a sword, wielding it in a fighting attitude and showing in this way his joyfulness, singing the glorious deeds of the ancient Mexicans.

»The people, rejoiced at seeing it, conducted him to the Royal Palace with equal demonstrations. In order that the messages should arrive quickly, small towers were erected along the principal roads of

»Notwithstanding the resistance with which the prompt execution of the Sovereign Resolutions of H. M. was at the beginning obstructed by Mendez Prieto, he succeeded afterwards, that his incomparable clemency left him in the honorable and distinguished enjoyment of the Office of Magistrate, and the interest at the rate of five per cent having been integrally satisfied, the expressed capital should be returned to him, redeeming with its amount the charges with which the Office of Postmaster was encumbered, and consequently freeing this Revenue from all responsibility.

»Before expediting the said Royal Letters Patent and the Warrant of Citation, which the Council gave in 1765, H. M. had given orders by two Royal Orders, that the Marquis of Cruillas should necessarily take my assistance in council inasmuch as might offer itself to perform judicial acts, as well as in the affairs which were given to his charge about investigating the legitimate disbursement made by the Office of Postmaster General, as in all the incidences of the established Administration and which might be established for account of the Revenue.



Mexico.—The new Post-Office, in construction

»In fact, the incorporation was proceeded with, carrying out the expressed Royal Letters Patent of 1765 by the Decree of 16<sup>th</sup> of June of 66, and in ordering to give possession of all the Post-Offices, the following first of July was fixed to establish the general Administration for account of the Royal Treasury, the extension of the Kingdom being divided into the two Administrations of Mexico and Veracruz according to the orders which his Excellency the Marquis of Grimaldi and the General Direction of Madrid had.

»The correspondent Edicts were published, announcing in the whole Kingdom the Administration to be under the same rules, which had till then been observed by the Postmaster General, Mendez Prieto, H. M. having given notice, that not the slightest change should be made, adding, that neither should there any terrestrial portage be collected on the letters of the Maritime Mail; but with regard to the privileges, which were then in force, respecting the letters of the Kingdom addressed to the Tribunals and Ministers holding employments and Commissions in the Royal Service, the point was arranged in an other Disposition, without being able to go beyond the portages of the Maritime Mail, of which not even the Viceroy is exempt in America.

»The absolute want of funds in the Branches of Fines forfeited to the Royal Treasury and Equity expenses, and the repeated Instances which some private persons, employed at the Superior Government, made, when I was absent in the interior Provinces, caused the exemption to extent itself beyond the



»The very useful act of founding the Maritime Mail, which, after clearing the greatest distances, has united the great Empires of the two Americas in interchanging correspondence with the Capital Monarchy, produced in New-Spain the considerable advantage, that the office of terrestrial Postmaster General would be incorporated to the Crown, and that this Revenue may be administered to-day under the rules and ordinances which insure the Public confidence with an increase in the revenue, which may reach in a short time the annual amount of a hundred thousand pesos, in the grant of which, its net proceeds already come up to nearly eighty thousand pesos.

»We know that the Terrestrial Post in Spain had its beginning in the year 1518, and after the conquest of the Americas, these offices were successively created in the vast extension of the Kingdoms, which it includes, in consideration of which, the Emperor Charles the fifth made a perpetual grant as Postmaster General of Peru to Doctor Galindez de Carbajal about the year 1525; but in New-Spain the said employment was raised to a salable and transferable office, and in this character it was ultimately given to Anthony Mendez Prieto for the sum of sixty one thousand seven hundred and seventy pesos, at which is was valued to expedite him the title.

»In the 16<sup>th</sup> of the 3<sup>d</sup> book of our Indian Abridgment, it treats of the letters, postmen and Chasquis Indians, the denomination of which was always given in Peru to the natives destined to this employment, recommended by the law, urging its good treatment and the payment in cash. And as the expressed offices of Postmasters General were in the hands of private holders, thanks to their pecuniary services rendered, they were obliged to deliver the letters and parcels to Tribunals and the Ministers of Justice and Finance free of portage, for even thus, an excessive profit was left to them.

»By the Provisional Regulation, which the Marquis of Grimaldi made in 1764 for the establishing and governing of the Maritime Mail between Spain and the West Indies, it was arranged, that the offices of Veracruz and Mexico should at once aggregate themselves to the new Administration, which was to be established for account of H. M., promising to indentify to the proprietor their value; and through private Instructions given to Dominic Anthony Lopez, having for its object to arrange the Maritime correspondence of this Kingdom, intermediate Post-houses from Veracruz to Mexico were ordered to be erected and that the other post-offices of the interior Provinces, should remain under the Administration of the Private Holders, while H. M. resolves incorporating them to his Royal Crown, returning to the persons interested in it their legitimate due.

»To that effect, it was also noted in the expressed Instruction, that the accounts of three quinquenniums should be asked of the terrestrial Postmaster general to find out the real proceeds of these offices, and strict orders were given to the Marquis of Cruillas in reference to justifying with legitimate documents the total disbursement made by Anthony Mendez Prieto, who was in the enjoyment of them with that Magistrate of this City. But as he had too much protection through the help of the large profits realized by all the Post-offices of the Kingdom, he found much support to oppose the new Ordinance with the idea of embarrassing the just and consequent incorporation which was announced in the Provisional Regulation.

»In view of the groundless difficulties which Mendez Prieto stirred up, assisted by his supporters, so as to avoid or delay the fulfillment of the Resolutions taken on this very important matter, the King recognized the necessity of proceeding at once to the definite incorporation of the Office of Postmaster General of the Kingdom, and by his Royal Letters Patent issued on the 21<sup>st</sup> of December 1765, he ordered it to be effectually returned to the Crown, with that of Magistrate and all the other prerogatives annexed to the same Office, predisposing, that while the amount which Mendez Prieto has to receive is being fixed, the corresponding interest should be paid to him at the rate of five per cent on the sixty one thousand seven hundred and seventy pesos at which the office was appraised in order to expedite him the title; and that no contradiction nor Instance whatever should be admitted, for his actions were left reserved to him, so that he might formalize them in the Council that H. M. had created in Madrid in order that it might be taken notice of in the Incorporation of the Indian Postal-Service.

two hundred and fifty thousand pesos, a sum, which far from increasing, had diminished at the beginning of our National Life, no doubt on account of the disorder, which in all branches of public administration were engendered, first, the War of Independence and after, our perpetual internal disputes, for Doctor Mora (1) lets us know, that in the fiscal year of 1831 to 1832, the Post-office had only a net revenue of \$ 213,844.

In this, as well as in many other matters, independent Mexico did not do anything else for a long time, but to continue the colonial traditions and practices, the Post-office being considered more as a source of resources than as a service put under the charge and protection of the authority to the common benefit. It is, therefore, not strange, that this branch depended on the Finance Ministry, till it passed to that of the Home Ministry on the 13<sup>th</sup> of September 1863, which in the memorial presented to the sixth Congress at the end of 1871, informs it, that this branch was still governed by the «Colonial Ordinances, with very slight modifications made by the laws of 4<sup>th</sup> of October 1842 and 28<sup>th</sup> of August of 1852.»

Matters went on in this way, all the Governments, from the re-establishment of the Republic in 1867, procuring, nevertheless, to employ the Post-office revenues for gradually bettering the service, which kept on being enlarged little by little, and in assisting various steam-ship lines, in the Gulf of Mexico and in the Pacific, sometimes with important sums of money, so as to establish and to keep up a regular communication between our ports and some abroad, it greatly contributed to develop the mercantile traffic.

But in spite of all, our postal Institutions existed under an antiquated system of routine and tradition, and though the important reform of prepaying the letters by the use of the stamp or postal «estampilla,» our Post-office was still far from lending to the public the numerous services which they already then lent in other countries.

The event, which radically altered our postal service, was the one of our entrance into the Universal Postal Union, resolved upon by the Minister of State, Trinity García in 1877, and was an accomplished fact in 1878 with as much effect as boldness, for it really wanted a strong determination to oblige the Republic to discharge by an international convention, according to the rules adopted by the most civilized and richest nations in the world, a service, which was still here in its infancy and for which we had neither good roads of communication, nor well instructed officials and almost no pecuniary resources nor the most indispensable means of action. And so that it may not be thought, that we exaggerate the importance of this event, let us show how the late and progressive general Director of the Post-office Emmanuel de Zamacona é Iacian judged it in his speech delivered on the 14<sup>th</sup> of September 1902 on laying the foundation stone of the new Post-office in this Capital:

«The adhesion of Mexico to the Universal Postal Union in 1878 contributed, however, very efficaciously to introduce salutary reforms in our postal service. The active interchange of correspondence with other more advanced countries, made the defective state of our postal institutions evident, producing such singular anomalies, as the one of the international postages being lower than those for inland letters, and in such a manner, that a letter could be sent from the City of Mexico to our antipodes and to return to Veracruz, going round the world for a less cost, than if it were sent from the Capital of the Republic direct to the nearest port of our Gulf coast.

»A radical reform having then been urgently imposed, the Codes of 1883 and 1894 and the Decree of 26<sup>th</sup> of January 1899 had thence their origin.

»The Universal Postal Union, that work worthy to be enumerated amongst the greatest of our days, not only made us accessible to almost every part of the globe, but it also was to us a real school in postal matters and an irresistible force that obliged us to adopt the modern postal practices.

»Thanks be given to those who decreed the entrance of Mexico in this covenant of a Union, which, in going beyond the international frontiers, has succeeded in constituting a sole postal territory of a hundred million square kilometers, with a thousand million of inhabitants! Thanks be given to the creating geniuses of such a beneficial organization, that has an influence on the same elements by which it is

(1) *México y sus revoluciones*, volume I, page 462.

limits predefined, for it amounted to more than fourteen thousand pesos, and for this reason his Excellency the Marquis of Grimaldi gave notice, that the portage on all letters of the Maritime Mail, should be paid according to that directed in the Provisional Regulations, equivalent means being arbitrated for this purpose, in default of funds of the Fines forfeited to the Royal Treasury and Equity expenses.

»We decided this justly recommended point, with the disposition, that for want of funds in the expressed Branches of Fines forfeited to the Royal Treasury and in the Equity expenses, the portages on documents and official letters that come from Spain or from the Islands addressed to the Viceroyalty and the Supreme Courts of Justice or perpetual of the Kingdom, shall be paid from the Royal Treasury.

»The other point referring to the extraordinary couriers on horseback and on foot, which was also arranged in the Edict of the 10<sup>th</sup> of the present month, will be as useful to the Revenue as of acknowledged benefit to the Public cause and alleviation to the poor Natives that supply the horses and mules of burden when the couriers should need them; moreover, since the continuous prejudices which the hapless individuals, on whom this burden falls, suffer and oppose, will not entirely cease till Post-houses are erected on the principal roads of the Kingdom, it is necessary to report at once to his Excellency, the Marquis of Grimaldi, on this subject, in consequence of the reservation made in the last Disposition of the 10<sup>th</sup> inst., reminding his Excellency, that since the year 64, in which he framed the Regulation and gave private Instruction to Dominic Lopez to establish the Maritime Mail and the Correspondence from Mexico to Veracruz, he ordered him to erect Post-houses on this high-road, which is the most frequented on account of the many extraordinary couriers that are being dispatched.

»There are many Provinces where up to now neither an Estafet nor ordinary Post-carriers are established, on account of the scanty or no usefulness whatever, which its small correspondence offers with this Capital and the other large towns of the Kingdom; but in consequence of various of its Branches being in trust of the Royal Treasury account, and that, from the beginning of the next year have each to pay the portages of letters and documents which formerly were free of charge or were sent over the mountains with considerable delay, I am of the opinion, that offices should be opened in the Provincial towns, being heads of Districts, and that Post-carriers on foot should be appointed to carry this correspondence, although it may be of little usefulness to the Revenue, it will encourage Commerce and produce other benefits to the Royal Exchequer and to the Public.

»Finally, I believe, that as the net amount of this branch has reached in the last year nearly eighty thousand pesos, and when its offices and extent of business are limited even to only two high-roads, it will be able to have a considerable increase with the Dispositions given now and by way of extending the Estafets to numerous populated places, existing in different Provinces, economizing the expenses by means of the Indians or any other Post-carriers on foot, who perform as much or more duty as an extraordinary courier on horseback and earn much less.»

In fact it appears from the annexed statement to the report that precedes it, that the Post-Office receipts in Mexico and Veracruz came in the year 1770 to 1,110,101 reals, from which more than 132,000 was deducted, for an excess, free of portage and returned letters; for expenses, in the real sense of the word, about 466,000, and the integral rest of 612,844 reals (\$ 76,855), were sent to Havannah according to the then established rule, for the expenses of that Dependency of the Crown.

In the private instruction, which the Count of Revilla Gigedo, John Vincent Güemes y Pacheco left to his successor, the Marquis of Branciforte, dated 30<sup>th</sup> of June 1794, we see, that this revenue produced then 1,400,000 reals, or \$ 175,000 net, and that a second weekly Post had been established on the principal roads, which were those of Veracruz, Tierra-dentro and Valladolid.

Baron de Humboldt in his *Ensayo político sobre la Nueva España* (1) (Political Essay on New-Spain), estimated the net yearly proceeds of the Postal revenue, at the beginning of the last century, already at

(1) Volume IV, page 224.



On the 31<sup>st</sup> of December 1883 there were already 53 principal administrations, 261 estafets (couriers) and 613 agencies; total, 937 Post-offices and 1,386 functionaries.

The organization was radically changed on the 1<sup>st</sup> of January 1884 according to the postal Code. A general administration and 937 local administrations, were the Post-offices that commenced operations, as well as 10 inspectors, belonging one to each zone, the country being divided in as many zones, for the purpose of watching over the service. The number of functionaries was 1391. By reason of the difficulties encountered in practice, principally in the explanatory remark of the accounts, a backward movement was made in respect to the new organization, and in 1884-85 only 289 local administrations, 4 town branches and 658 agencies were left subsistent.

The Postal Service went on with this organization to date, but the number of local administrations at this moment is 544, that of branches 22, the agencies 1,315 and 96 perambulating offices in railways; the total of Post-offices is 1,961. The number of functionaries amount to 3,655, without counting the persons occupied in carrying the mail by contract, approximately coming up to 5,000.



Veracruz. — Building destined for Post-office and Telegraphs (being constructed by the engineers Echagaray and Lattine)

**OBJECTS CONVEYED BY THE POST.**—The postal service during the period from 1870 to the 31<sup>st</sup> of December 1883 was limited to the conveyance of letters and official communications and printed matters; samples and parcels that could go in the post-bag were carried eventually.

From the 1<sup>st</sup> of January 1884, and according to the Postal Code, the objects admissible for their conveyance by Post, were divided in four classes: 1<sup>st</sup>, letters and letter-cards, official correspondence and post-cards; 2<sup>nd</sup>, printed matters of periodical publications; 3<sup>rd</sup>, printed matters of all kinds and documents, and 4<sup>th</sup>, samples without any mercantile value.

On the 1<sup>st</sup> of January 1895 a 5<sup>th</sup> class, the parcel-post, was added by the new Code, and in the second, books for primary instruction and works in periodical deliveries were included.

**POSTAGES. Inland service.**—Up to the 31<sup>st</sup> of December 1883, the postages were paid in cash, leaving it to the Post-office functionaries to fix the corresponding stamps to each transmission.

The tariff in force at this period, was the following:

For a single letter of less than half an ounce and to a distance of 16 leagues.	10 centavos.
From 17 leagues upwards . . . . .	25 »
For a letter weighing half an ounce (16 leagues) . . . . .	25 »
From 17 leagues upwards . . . . .	35 »

For an excess of weight, 10 centavos were charged more for every fourth of an ounce for both distances; but 5 centavos more were aggregated at the completion of every ounce in excess.

Printed matters, being Newspapers or not, paid 5 centavos for every pound in weight, being the minimum postage for every transmission.



formed, taking even those populations in tow, that have been left behind on the road of progress, and infusing them with its magic contact, movement and life!»

It was from 1878 to 1883 that the important reforms were being prepared, which the organization of our postal system demanded in order that we should be in the required condition for our adhesion to the Universal Postal Union. The most urgent of these reforms was the reduction in the tariff of the inland postage, so as to make the provoking anomaly to which Mr. Zamacona é Inclan alludes in one of the paragraphs in his speech, which we have before transcribed, and which was decreed in the Postal Code of 1883, put in force on the 1<sup>st</sup> of January of the following year.

Unfortunately, this transcendental measure, which surely had to cause a large reduction in the Post-office receipts, coincided with the profound crisis which our public treasury suffered in the last years of general Emmanuel Gonzalez's presidential administration, forcing the country back to the ominous times in which the Exchequer could not even cover the salaries of the public functionaries, nor the other equally sacred and urgent obligations.

It was then, when the disgraceful affair happened, that the Post-office, in order to attend to its most pressing expenses and so as not to completely paralyze the service, would dispose of the funds which the editors of Newspapers had intrusted it in the form of Bills of Exchange to be collected in the interior of the country, and that of the suspension of payments of such an urgent character as that of the transit duty due to some foreign nations and that of the very carrying of the mail contracted for.

The consequences of this confusing crisis made themselves felt in the second administration of general Porphyrius Diaz, the painful details of which, the reader may consult that most interesting to him in the memory, which the Home Secretary, Emmanuel Romero Rubio, presented to Congress on the 1<sup>st</sup> of July of 1886. By means of order and economy, that storm had at last to be domineered, and though it is always a heavy burden on the general estimates of the Federation, because the Post-office has never again covered its expenses, very important improvements in this branch have been carried out, which the segregation of the Post-office from the Home Ministry has contributed, in order to be put under the Department of Communications and Public Works, created in 1891, which, as it is only natural, has consecrated great attention to such an important service.

The peculiar disposition of this work forbids us to enter too closely into the technical details, but in order to give a sufficiently complete idea of our organization and postal service, may it be permitted to us to transcribe the brief review, sent and presented to the Postal Congress, celebrated in Bern in July 1900, by the intelligent and assiduous Director general of the Post-office, Emmanuel de Zamacona é Inclan, and which, as it embraces precisely the period in which the real evolution in this branch was carried out, constitutes a most interesting and clear summary of its progress, that may be qualified as wonderful without exaggeration.

LEGISLATION.—From 1870 to 31<sup>st</sup> of December 1883, the Postal Service was conducted on the old Spanish Ordinances. The Mexican Postal Code, issued on the 1<sup>st</sup> of October 1883, from the 1<sup>st</sup> of January 1884 to 31<sup>st</sup> of December 1895, and also the respective regulation.

The new Code, dated 23<sup>rd</sup> of October 1894 was put in force on the 1<sup>st</sup> of January 1895, reforming and adding to the former, lasting to date, as well as the regulation of the 1<sup>st</sup> of August 1895.

The reforms and the essential additions made to the new Code are those contained in the law in force of 26<sup>th</sup> of January 1899.

ORGANIZATION.—The administrative organization, consistent with the Spanish Ordinances, consisted of one General Administration, in 47 principal and 431 subordinate ones; the principal ones endowed with a fixed salary and the subordinate or aggregated with fees varying between 10 and £0 per 100 (1). The number of functionaries was 586.

(1) These figures refer to 1870. The reference made to the Spanish Ordinances by Mr. Zamacona é Inclan, are no doubt alluding to the form and not to its number in which the Post-offices were organized.

From the 1<sup>st</sup> of April 1879, the Mexican international postal service was ruled by the Convention of the Universal Postal Union, signed in Paris, at which Mexico assisted for the first time, Dr. Gabinus Barreda being the delegate.

With this new system, the postages on letters were reduced from 70 to 10 centavos for every 15 grammes (half an ounce) or fraction thereof in sending them, and those coming from abroad prepaid, were delivered free of charge, or the double postage was exacted on unpaid letters.

*Registered letter service.*—This service existed only for the inland circulation up to 31<sup>st</sup> of March 1879; but since the 1<sup>st</sup> of April, it has been extended to the international correspondence, according to the stipulations of the Universal Postal Convention of Paris.

The Registration fee in the inland service, was one peso per transmission, up to the 31<sup>st</sup> of December 1883, besides its corresponding postage; of 25 centavos up to the 31<sup>st</sup> December 1894, and 15 centavos till the 31<sup>st</sup> of March 1899, including the acknowledgement of receipt. By the law of 26<sup>th</sup> of January, the Registration fee was put on a level with the one fixed by the Universal Postal Convention from the 1<sup>st</sup> of April 1899: 10 centavos without receipt and 5 centavos more if the said receipt should be required, be it at the time of depositing the transmission or subsequently, up to 30 days afterwards. An indemnity of 10 pesos as a maximum is granted in case of a letter or registered parcel of the first class getting lost, higher force (*force majeure*), excepted.

*Various services. The collection of editors orders of payment for publications.*—This service had its origin in the transfer of the editors' funds, which those concerned in it made, by means of postage stamps, the value of which was paid to them without discount by the Post-offices; this traffic came to such a pitch, that it was necessary to prohibit the sale of the stamps by wholesale and to establish the transfer of the editors' funds by means of their orders of payment in favour of the Post-office and to the debit of their correspondents or agents, but in no case to the debit of the subscribers. With this organization it lasted up to the 31<sup>st</sup> of December of 1883, the rate per transfer being conventional; and from the 1<sup>st</sup> of January 1894, and according to the Code, the orders of payment direct to the debit of the subscribers were admitted, continuing up to date under that system, a premium of 5 per 100 being charged for the collection and transfer. The method of reckoning is easy, expeditious and clear. The present movement amounts to 194,868 orders yearly, valued at \$ 984,868'16, which is equivalent to 4,924,340'80 francs.

*Inland Postal Orders.*—Although this service was created by the first Mexican Postal Code (October of 1883) it was only put in force on the 1<sup>st</sup> of January 1895, by common agreement with the reformed Code (October 1894).

The service commenced with 84 offices, authorized to draw upon each other up to sums of \$ 30, with a premium of 2 per 100 for transfer, its turn over in the first half year was 7,791 orders for the value of \$ 101,732'90 (508,664'50 francs); at the present all the administrations are included, and generally sums up to \$ 100 and in extraordinary cases larger amounts, without being limited, are drawn, a differential tariff of transfer premiums having been fixed, fluctuating between 1, 3/4 and 1/2 per 100.

The present turn over amounts to 18,000,000 pesos, equivalent to 90,000,000 francs.

*International Postal Orders.*—Up to now, postal orders are only interchanged with the United States of America, all Mexican Postal administrations being authorized to issue orders up to \$ 200 in silver and to pay the equivalent even to \$ 100 gold (1,000 francs) for each order, the premiums being charged according to the differential tariff of the Inland Service.

In this service, which commenced taking place on the 1<sup>st</sup> of January 1900, appears an initial movement in that month of 585 orders, issued in Mexico, for the silver value of \$ 13,007'13 or 65,035'65 francs, and 152 orders issued in the United States for the silver value of \$ 3,418'53 (17,092'65 francs) according to the conversion.

The movement in the fourth month (April) was as follows: 786 orders issued in Mexico, silver value \$ 24,474'67 or 122,238'35 francs, and 225 orders issued in the United States for the silver value, according to the conversion, of \$ 6,742'31 or 33,711'55 francs.

Books and music paid 10 centavos per pound.

Cards, printed or engraved, of pasteboard or vellum, 75 centavos per pound.

The postage on samples and other objects was left to the Post-office functionaries.

In none of the dispositions, at this epoch, was the weight and the dimensions of the transmissions limited.

The uniform tariff prescribed by the Code is in force since the 1<sup>st</sup> of January 1884: 10 centavos for letters of 15 grammes or a fraction of it to any distance; 4 centavos for those of equal weight for the town service; 5 centavos for inland post-cards and 2 centavos for the town service; 4 centavos on 480 grammes of printed matters of the 2<sup>nd</sup> class; 1 centavo for each 30 grammes of printed matters of the 3<sup>rd</sup> class and 2 centavos for every 30 grammes on parcels without value. These postages have been reduced on various dates.

On the first of January 1895, the postage on letters was reduced from 10 centavos to 5 centavos for every 15 grammes or fraction thereof; that on printed matters of the 2<sup>nd</sup> class, from 4 to 2 centavos for every 500 grammes and that of the 3<sup>rd</sup> class from 1 centavo for every 30 grammes to 1 centavo for every 100 grammes, and lastly, the samples from 2 centavos for every 30 grammes to 1 centavo for every 100 grammes.

On the 1<sup>st</sup> of April 1899 (law of 26<sup>th</sup> of January), the postage on local letters was reduced (town service), on letters and letter-cards from 4 to 2 centavos for every 15 grammes or fraction; and post-cards from 2 to 1 centavo. The post-cards for the inland service were reduced from 3 to 2 centavos.

*International service.*—The postages imposed on the mails sent abroad and which were in force up to the 31<sup>st</sup> of March 1879, are the following:

For the Mexican mail, an obligatory postage equal to the one fixed for the inland service, indicated on each transmission by means of postage stamps, adhered by the postal functionaries. An other one, equal to this postage, which the receiving offices charged each other in account in cash, and which the general Administration paid to the English and French steam-ship companies carrying the mail.

Besides this, a third postage or «porte de mar» (sea-postage), was charged on the mail carried by the English steamers, in the following manner: for Porto-Rico and the other West-Indian Islands, 12 centavos was paid for simple letters; for those weighing half an ounce, 25 centavos; from one to two ounces, 50 centavos; from two to three ounces, 75 centavos, and for every additional ounce 25 centavos. The letters addressed to South America: for a simple letter, 50 centavos; for that of half an ounce, 1 peso; from one to two ounces, 2 pesos, and progressively one peso for every additional ounce.

The French steam-ship Company, also as «porte de mar,» charged the following: for the mail to Spain and Portugal, 31 centavos for every 15 grammes or fraction. The one addressed to Cuba, Haiti, Jamaica, United States of North-America, Columbia, Porto-Rico and St. Thomas, 20 centavos for the same weight. That, addressed to Chili, Peru and the Equator, 31 centavos and the one destined to Brazil and the Argentine Republic 37 centavos. Printed matters paid 5 centavos for every 50 grammes.

With regard to the French steam-ships, these «portes de mar» were obligatory up to the 2<sup>nd</sup> of June 1877 and from that date forward, the payment was by faculty for letters only.

According to the indicated tariffs, a letter of half an ounce or fifteen grammes, addressed to Europe (by ordinary transmission), paid 35 centavos in Mexico, for inland postage, and 35 centavos for the sea-postage, that is, 70 centavos.

For a letter of an ounce or thirty grammes, 1 peso 20 centavos.

The letters for the United States of America paid the same postages as those of the inland service, according to the Convention of 11<sup>th</sup> of December 1861, besides a sea-postage of 7 centavos for a letter of half an ounce or fraction, 1 centavo for every Newspaper and 1 centavo for every ounce of any other kind of printed matter. These postages belonged to the country of origin.

All the correspondence that was received from abroad, including the United States, were charged with the inland postage, which was paid by the receivers in delivering the transmissions.

*Posting and Delivery.*—The posting of letters is being effected: at the letter-boxes of the Post-offices, at the counters in the same place and in 1,055 letter-boxes placed in the streets, in public and commercial establishments and in railways.

Printed matters of the second class and parcels of the third, as well as postal-parcels are only deposited at the counters.

For the delivery of letters, there are: the house-delivery, performed by 488 postmen; private letter-boxes at 131 local administrations put at the disposal of the public and numbering 7,405; the list fixed at the Offices for the knowledge of those it concerns, and the special deposit for the transmissions addressed *poste-restante*. At previously authorized fixed offices, house-delivery is made of postal-parcels and registered transmissions.

*Postal-Values.*—Already in the year 1870, the prepayment by means of postage stamps was established and up to 1876 the issues were only of 6, 12, 25, 50 centavos and 1 peso. From 1877 forward, some alterations were made, and at the present moment the issue comprises the following values: stamps of 1, 2, 3, 5, 10, 15, 20, 50 centavos and 1 peso and 5 pesos; simple letter cards and with answer paid, of 2 and 5 centavos; simple post-cards and with answer paid, of 1, 2 and 3 centavos; stamped envelopes, of 2, 5 and 10 centavos; and stamped wrappers, of 1 and 2 centavos.

Besides, small books of identity were issued, consistent with the Convention of the Universal Postal Union, of the value of 20 centavos; and cards of identity, instituted by the Decree of 26<sup>th</sup> of January 1899, value 10 centavos.

*Statistical dates.*—The present movement in postal matters in an annual proportion of 134,878,827 transmissions is effected in this form:

*Inland service.*—Postal matters interchanged between the Post-offices show the following result:

Letters and post-cards. . . . .	27,093.470
Printed-matters and samples . . . . .	68,905.416

Town correspondence (1) (posted and delivered in the town), in the same proportion, as follows:

Letters and post-cards. . . . .	1,053.240
Printed matters and samples . . . . .	1,374.964

Postal matters of the *international service* amount to the following figures:

Posted in Mexico and addressed for abroad:

Letters and post-cards. . . . .	3,056.220
Printed matters, documents and samples . . . . .	3,680.328

Received in Mexico, posted abroad:

Letters and post-cards. . . . .	4,266.810
Printed matters, documents and samples . . . . .	25,448.379

Total amount. . . . . 134,878,827

The united testified Postal matters in the year 1872-73, were 4,321,177, in the following form:

<i>Inland service.</i> —Letters and official communications . . . . .	2,201.402
Printed matters . . . . .	1,874.054

<i>International service.</i> —(Mailed and received). Letters. . . . .	155.840
Printed matters . . . . .	89.881

Total amount. . . . . 4,321,177

*Economical state.*—The revenue of the department, in the past nine months of the present fiscal year, amount to \$ 1,383,210'24 cvs.; consequently, the annual proportion shows \$ 1,844,280'32 cvs.; which sum is equivalent to 9,221,401'50 francs, taken at the rate of 5 francs per peso.

(1) The town service was inaugurated in May 1885.



*Parcel-Post.*—This service is dated from the 27<sup>th</sup> of July 1894 for inland, and for the international service from the 1<sup>st</sup> of July 1888 with the United States of America; 12<sup>th</sup> of March 1890 with England; 27<sup>th</sup> of June 1892 with France and the 1<sup>st</sup> of July of the same year with Germany, according to the respective conventions; postal parcels could also be interchanged with other countries through the expressed administrations, except the United States.

In the interchanges with France and Germany, the mutual charge was stipulated at 10 centavos per parcel in the shape of a territorial duty, and gave rise to an international book-keeping with those two countries.

The movement of the inland parcel-post service in the first year was 24,142 transmissions, the annual proportion being at the present moment 199,100; at the beginning only 102 Post-office administrations were authorized and to-day all have the same right: administrations and agencies. The movement in the first year of the international service, 3,268 transmissions were sent and those received amounted to 25,802.

At the present time the yearly movement of parcels sent is 36,744 and those received amount to 102,510 transmissions.

*The service of conveyances.*—Before the Postal Code of 1883 came into force, the data on conveyances was reduced to the places communicating with each line, to the means of conveyance and to the number of expeditions accomplished in a year. Thus, in the year 1876-77, the established lines of communication, which were 564, with 1,177 employees, gave the following result:

Means of conveyance	Yearly journeys
By railway . . . . .	2,815
By coach . . . . .	10,510
By canoe . . . . .	396
On horseback . . . . .	18,769
On foot . . . . .	29,136
Total . . . . .	61,626

expeditions, at a cost of \$ 316,324; its equivalent in francs is 1,591,620'00.

At the present time, a special section exists in the General administration to attend to the matters of this service and a department for those of conveyance by railway.

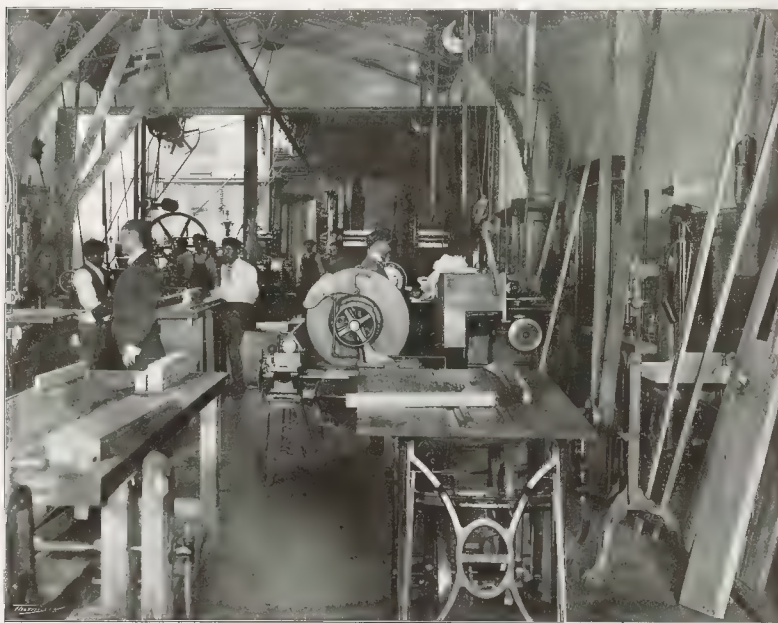
The number of lines of communication is 1622, through which 557,552 expeditions are made annually, the number of employees being nearly 5,000; notwithstanding of which, the cost of this service, including the salaries of all the functionaries, packing expenses, the purchase and repairing of mail-bags, etc., only amounted to \$ 752,980'08 (3,764,900'40 francs).

The present extension of the postal routes is the following:

By railway . . . . .	11,753 kilometers; covering yearly:	10,629,274
By tramway . . . . .	192 » » »	329,149
By steamers . . . . .	17,289 » » »	1,389,126
By boats . . . . .	18 » » »	13,860
By velocipede . . . . .	95 » » »	29,640
By coach . . . . .	9,526 » » »	3,071,214
On horseback . . . . .	24,323 » » »	6,869,231
On foot . . . . .	25,637 » » »	5,800,280
Total amount . . . . .	88,833 » » »	28,131,777
On railways . . . . .	12,040 » » »	10,988,064
On fluvial and maritime routes . . . . .	17,307 » » »	1,402,985
On ordinary terrestrial routes . . . . .	59,486 » » »	15,740,728
	88,833 » » »	28,131,777

gratuitously convey the public mail. This, no doubt, has greatly helped in the development, so rapidly realized by the Post in Mexico, for it saves the Exchequer the payment of sums, which under any other system would be very important.

Lastly, the official mail of the Federation is carried gratuitously, and that of the States at an important reduction. If this exemption would cease, as it ought to do according to the opinion of many, the postal service would certainly not show the deficit, which it has to-day, and which, as we have seen, exceeds 200.000 pesos annually, though it has been considerably reduced.



Mexico.—Federal telegraphs. Motor room

Few years after the marvelous invention of Samuel Morse, a North-American, who put the electric telegraphy in conditions so as to be a practical reality (1845), the exclusive right for ten years to establish electro-magnetic telegraphs in the Mexican Republic, was granted by the law passed in Congress on the 10<sup>th</sup> of March 1849 to the Spanish subject, John de la Granja by name, under the conditions, that at least forty leagues of the line would have to be constructed within the two years following between Mexico and Veracruz, that the Government could interrupt the communication for the sake of public security, and that the preference of transmission should be given to official messages at a reduction of half of the rate paid by the public, a rate which, however, was not subject to any fixed tariff.

Not a vestige have we found of the primitive tariffs nor the date of the opening of the line to public service between Veracruz and Mexico, in the numerous records and official documents which we have consulted; we have only been able to investigate, that the decree of 4<sup>th</sup> of April 1851, prolonged the term of two years, fixed in the concession, to construct the first forty leagues, for six months, and in the well known Memorial of 1856 of the minister of Public Works, Emmanuel Silíceo, it speaks already of the line to Veracruz as being finished, and making reference of pecuniary help, granted by the Government, for

The expenses are in relation to 124 per 100 with regard to the revenues.

The receipts in the year 1870-71 were \$ 476,042'33, representing the sum of 2,380,211'65 in francs.

At that period, the expenses were inferior to the receipts in the proportion of 8 per 100.

\* \*

ORGANIZATION.—General Administration, Sub-Administration, Consulting Board, 10 Sections, 4 Departments.

	1900 901	1901-902
Administrations. . . . .	542	520
Branches . . . . .	29	36
Agencies . . . . .	1,397	1,477
Ambulant Post . . . . .	114	174
Total. . . . .	2,082	2,207
FUNCTIONARIES.—At the General Administration . . . . .	458	505
Servants . . . . .	18	19
At the Administrations and Agencies . . . . .	2,666	2,773
Postmen and Messengers . . . . .	1,131	1,231
Contractors and Conductores . . . . .	6,000	5,856
Total. . . . .	10,273	10,384
Private letter-boxes.—Number. . . . .	10,816	11,700
Receipts . . . . . \$	50,403	\$ 60,603
Postal Routes.—Extensión en kilómetros . . . . .	92,808	92,555
Kilometers, distance run over . . . . .	32,217,227	33,528,193
Mail.—Transmissions . . . . .	148,086,531	156,518,498
Movement in Values.—Editors' orders of payment, paid. \$	394,101'90	\$ 411,863'82
Inland postal-orders . . . . . »	28,590,201'32	» 34,609,317'60
International postal-orders:		
Issued by Mexico . . . . . »	445,879'08	» 505,435'29
» by the United States . . . . . »	151,010'92	» 234,800'04
Post-office receipts . . . . . »	2,135,520'65	» 2,394,159'31
Post-office expenses . . . . . »	2,638,512'58	» 2,894,962'87

\* .

In order to finish this subject and so as to begin speaking of the telegraphs, we think it necessary to leave here three important facts recorded, though it may only be in a few words.

The first is, that since the incorporation to the Spanish Crown in 1765, the post has been with us a State monopoly. Article 28 of our political Constitution, in prohibiting the monopolies and government shops, actually exempts expressly «those referring to the coining of money, the posts, and patents, which the law concedes to the inventors or improvers for a fixed period.» This monopoly, however, does not practically extent itself to the prohibition of conveying the mail by private companies or in its care, as long as the corresponding postage stamps are fixed to it.

The second is, that one of the invariable conditions made to the concessionary Companies, as we believe to have already said in speaking of the adopted system in railway matters, was, that they should



the Ministry, in view of the multiplicity of attentions required by the telegraph, was raised to the rank of General Administration; a laying of a submarine cable between Galveston, Veracruz and Coatzacoalcos was contracted with a North-American Company, joint by means of a terrestrial line across the isthmus of Tehuantepec with Salina-Cruz, and from there by the Pacific with the Central and South-American nations; to promote the construction of new telegraphic lines, he repaired to the system of contracting it with private individuals; he also contracted the preservation and care of the lines constructed; no doubt it was seen, that the task would result to be very dear and deficient, if it were left to the officials



Mexico. — Federal Telegraphs. Cell room

of the administration; and though it is true, that in all this it was proceeded with little or no order, and without any methodical plan, in which the good wishes might agree with the most urgent necessities, and, above all, with the capabilities of the public treasury, it is no more but just to recognize, that the Republic has received such a great material and economical impulse with the growing and extremely rapid development in every kind of its communications, as it has already been seen in studying the railways, that in a certain sense it may be qualified as wonderful and as the principal cause of the transformation produced in the country for the last twenty five years, no doubt greater than the one realized from the Independence up to the period when this was initiated.

Let us, however, return to the figures, representing the reality, and let us say, that from 7.136 kilometers of telegraphic wires, which the Government had in 1877-78, according to the said Memorial of General Pacheco, in the four following fiscal years, it went on to 9.505, 10.261, 11.100 and 14.020 respectively, reaching 16.252 kilometers in December 1882.

We do not find any statistic dates in General Pacheco's second Memorial, embracing the period from 1883 to 1885, and as to the time that passed from 1885 to 1891, no other Memorial from the Department



the construction of the line to Jalapa. In our compilation of laws, a decree given by the rightful Government of General Michael Miramon on the 10<sup>th</sup> of May 1859, is also registered, prolonging the primitive right of 1849 in favour of Hermenegildo de Viya y Cosío, successor in the rights of John de la Granja. The prolongation embraced all the lines already constructed and those that might be constructed or in construction within ten years.

The Memorial of Lewis Robles Pezuela the Minister of Public Works in the Empire of Maximilian, informs us, that the line of Veracruz by way of Tehuacan measured 503 kilometers with 754 of wire in 1865, having 15 offices and transmitted 56,789 messages with 772,480 words; besides this, there was a line in the interior, the property of Marian Muñoz Ledo, that measured 427 kilometers with 10 offices, and transmitted 31,711 messages, and an other one from Bagdad to Matamoros, constructed without the authority of the Government by Michael Puig.

These three lines, with a wire joining the National Palace with the castle of Chapultepec for the private use of Maximilian, was that which constituted then our telegraphic network, and which the Empire studied to enlarge, granting various concessions to private individuals, «with the permission of the owner of the right,» who, however, never seemed to have defended it in an energetic and strict spirit.

Besides, a general law and a regulation treating on this subject were issued on the 1<sup>st</sup> of November 1865, in which the principle of constituting the telegraphs a State monopoly was sanctioned, but in spite of which, concessions to private individuals could be granted for certain lines.

After the restoration of the Republic, the Minister of Public Works, Blas Balcárcel, committed in his Memorial presented to the Congress of the Union on the 14<sup>th</sup> of September 1870, that four lines, the property of the Government, existed at that time: the one from Mexico to Leon, via Querétaro; one from Querétaro to San Luis with a branch from Dolores-Hidalgo to Guanajuato; one from San Luis to Matehuala, with a small line from Saltillo to Monterrey, and that from Sisal to Mérida; five lines defrayed by the Federal Exchequer: from Tlalpam to Cuernavaca, from Mexico to Toluca, from Zacatecas to Durango (which only went as far as Sombrerete), from Durango to Mazatlan (not yet commenced) and from Veracruz to Tampico and Minatitlan (in construction); two constructed by the States: the one of Oaxaca to Tehuacan and that from Zacatecas to San Luis; and lastly, five lines belonging to private companies: that of Ometusco to Pachuca; the one from Mexico to Veracruz, with two wires, the one passing via Jalapa and the other by Orizaba, and two branches to Tehuacan and Jalacingo; the one from Leon to Guadalajara and Manzanillo, with a branch to Aguascalientes, and that of the Mexican Railway, which had two short separate lines between Mexico and Puebla and between Veracruz and Paso del Macho. All these lines together measured 4,789 kilometers (we do not know, whether of one, two or more wires), with 118 offices.

According to the Memorial presented to Congress by the same Mr. Balcárcel on the 16<sup>th</sup> of September 1873, the lines already constructed by the Government extended to 3,802 kilometers, those of the States to 870, and those of private companies to 2,179, forming a total of 6,949 kilometers. It was already spoken of in this Memorial about the junction of our telegraphs with the terrestrial ones of the United States having been realized, at Matamoros on the Northern frontier which put us in communication with the rest of the world.

This, as well as the other branches of the administration received a powerful impulse by the triumph of the Tuxtepec revolution. In fact, the Minister of Public Works, General Vincent Riva Palacio, relates in his Memorial of 1877, that the telegraphic lines, which a year before measured 7,136 kilometers, had an increase of 791. However, some statistic error must have been made in this or in the Memorial corresponding to the years from 1877 to 1882, because the then Minister, General Charles Pacheco, tells us in it, that the total extension of telegraphic lines, at the end of the fiscal year 1877 to 1878, was 7,136 kilometers, without mentioning the 791 to which General Riva Palacio makes reference.

What is certainly without doubt, is, that General Pacheco applied to the development of our telegraphs the same progressive spirit as he did to the railways and to the other branches, depending on the Department of Public Works. The special section, which his predecessor Mr. Riva Palacio had created in

over which the lines run across real deserts, as well as of the limited culture of the inhabitants, who, far from respecting and taking care of the telegraph, even destroy it with lamentable frequency in large tracts, either out of mere malignancy or to profit by the small value of the wire. Considerable expenses for guarding, severe special laws put in force with systematic rigor, and efforts of every kind have been necessary to have the lines only moderately respected; and even thus, it has been found necessary to abandon on many tracts the then substitution of iron wire, generally employed, for phosphorated copper, because this new material had to tempt the covetousness of the offenders in a special manner, always difficult to persecute efficaciously, and by their bad deeds, impeded or delayed an important reform, which, in allowing to make use of improved apparatus, would have made our telegraphic communications to progress much more. It is not on account of these difficulties that the technical progress of telegraphy is hindered more than reckoned upon, for the progress of which a practical special school, the installation of workshops for the reparation of apparatus, and the daily realization of other important improvements greatly contribute. Even the wire-less telegraphy has been subject to serious tests, and these very days, while we are writing these lines, two stations are being erected, one in Guaymas and an other in Santa Rosalía (Lower California) with the object of procuring an easy and cheap communication between the Continent and that separated peninsula, requiring to communicate with the rest of the Republic.

With regard to tariffs, though they have lately been considerably reduced, important reductions having been granted to the press, to mercantile quotations and others, the rates in general are still very high and on the basis of circular zones, the common centre of which is the Capital of the Republic, the rates increasing from twenty five centavos to two pesos for ten words and 10 per 100 more for every additional word, without counting the address nor the signature.

Important reductions, however, have commenced to be made in this tariff, partly through the introduction of telegram-cards of five and ten centavos in the City of Mexico and in the whole Federal District, partly through the institution of a zone to the South of our frontier with the United States, extending from Guaymas, in the State of Sonora, to Soto la Marina, in that of Tamaulipas, enjoying a reduction of 50 per 100 in the telegrams directed to it, from it or within it, as long as only the federal lines are used for their transmission. Relying on these series of dispositions, it is supposed that a reduction in the tariffs will soon be made, which the public service demands, and which the movement of our lines already justifies.

In fact, and so as not to accumulate too many figures, we will only say, that during the year 1901, according to the already mentioned «Statistical Annual» of the Department of Public Works, 1,717,830 inland private messages with 20,932,362 words, and 68,863 international telegrams with 1,013,141 words, were transmitted by the federal network. With a right to discount and 1,186,214 words, 48,286 messages from the States, as well as 333,987 messages free from federal authorities, containing 9,121,382 words, have been transmitted by special service. Finally, the telegrams for the service of the lines themselves, were 497,032 with 9,545,590 words; all this together forms a total of 2,665,998 messages with 41,799,689 words.



John de la Granja

of Public Works was published, but we can only say, that according to allusions and references made in posterior Memorials, a reaction took place in the first of these years and in the rapid growing of the telegraph, owing to the transfer made of some of the telegraphic lines of relatively second importance by the Federal Government to the States wishing to take them over, which were far from paying their expenses of preservation nor those of the offices. However, this transfer did not in the least lighten the federal treasury, for a quota for the maintenance of the telegraphs (generally 50 centavos per kilometer yearly) was paid to the States, and it happened besides, that the greater part of the States neglected the lines, which little by little came to ruin and disappeared.

When, at the time of creating the Department of Communications and Public Works, the telegraphs passed to be one of the dependent branches of this Ministry, things were afterwards reduced to order and system. The Government made gradually use of the right, which it reserved to itself in all the railway concessions, of putting up a wire on the posts belonging to the companies; it acquired by purchase the lines, which at former times had been constructed by private individuals or companies; recovered the lines previously made over to the States, and with an every day more judicious administration, to which the adjusting of the Budget and the prosperous state which the Mexican Public Treasury has reached since 1892 under the wise administration of the Minister of that Department, Joseph Y. Limantour, has served as a basis, our federal telegraphic network has been going on completing and extending itself, till at the end of the fiscal year of 1900-1901, it was endowed with 363 offices, an extension of lines on its own posts of 23.154 and a half kilometers, and 8.294 on railway posts. These 31.448 and a half kilometers of lines represent a development of conducting wires, reaching 47.829 kilometers; for, according to the growing traffic, the number of wires has been increased even to as many as four on some of the lines. The federal telegraphic network has even been enlarged afterwards, and on the 30<sup>th</sup> of June 1902 the lines of posts measured 31.526 kilometers, with a development of conducting wires of 47.934 kilometers. The number of offices went up from 363 to 379.

\* \* \*

In order to know the total extension of the telegraphs, working in our vast territory, those of the railways, those which the local Governments have established to communicate with places where the direct federal network does not touch and those which private individuals and companies have constructed purely for local use, have to be aggregated to the above figures.

According to the «Statistical Annual of the Mexican Republic,» published in March 1903 by the General Direction of Statistics of the Department of Public Works, fourteen of our States have their own telegraphs with 195 offices and 6.918 kilometers of line. There are, besides, 1.849 kilometers of terrestrial telegraphic lines belonging to private companies with 22 offices open to the public; and, lastly, the railway telegraphic lines measuring 12.036 kilometers. If to these figures the 2.094 kilometers of submarine cable between Galveston, Tampico, Veracruz, Coatzacoalcos and Salina-Cruz and La Libertad in Central-America is added, the total of our telegraphic lines in 1901 was the following:

Federal lines . . . . .	47.828 k.	982 m*
Lines belonging to the States . . . . .	6.917 »	886 »
» » to private companies . . . . .	3.942 »	725 »
» » to railways . . . . .	12.036 »	000 »
TOTAL. . . . .	70.725 k.	593 m*

\* \* \*

From a technical point of view, the construction and preservation of our telegraphs, for which we still use, as a general rule, wooden posts, has encountered and encounters serious difficulties, proceeding some times from the climate, especially on the lower and marshy parts of our sloping gulf coasts, at others, from the orographical constitution of the soil, and always on account of the enormous distances

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As for the rest, the ordinary receipts of the telegraphs have been increasing with a certain regularity for some years back. From \$ 496,314.64 in 1891-92, five years afterwards (1895-96) they came up to \$ 621,508.32, and at the end of the following quinquennium (1901-1902) they reached \$ 1,203,710.55. It is true, that the expenses have also followed an upward movement in proportion and the *deficit* of the telegraphic service is habitually \$ 400,000 in round figures, with the exception of the last fiscal year (1901-1902) in which it was more than one million four hundred thousand pesos on account of the laying of a submarine cable between Veracruz and Yucatan for account of the Government, the cost of which almost represents the million pesos of the deficiency that might be called extraordinary. In exchange of these sacrifices, which the perfect order in our public finances allows to be made, not only are the lines preserved, but new ones are annually erected through our immense territory, so necessary to all that refers to communication and movement. Besides, it is worth while bearing in account, that the number of messages of the federal public service and of the States, if it were not as it actually is, that the first is entirely gratuitous and the second at very reduced rates, would impose on the public revenues great sacrifices and perhaps still greater ones than the burden which those of the Federation show to-day.

In the judgment of sensible persons, these considerations are those that explain, if they do not justify it in an absolute manner, the tendency our governments have been developing in the matter since 1876 to date, the fundamental principle of which is abridged in a real monopoly of the telegraphic communications in hands of the federal Government.

This monopoly, which is not sanctioned by our political Constitution as the one of our Posts, was forming itself years ago under the shelter of the federal lines, constructed in the least populated parts of our territory, extending themselves little by little to the populated centres, competing with the private companies, which first erected the telegraph, every day more effectively, till at last they absorbed them. This had to be verified without any protest nor great resistance, because the said private companies had reimbursed themselves, with interests, of their primitive capital, and perhaps because the advent of the railways, which at the beginning performed the public telegraphic service, made them fear a competition, which, in the long run, would have been disastrous for them.

Be it as it may, the policy of our governments, which we shall call restrictive, was openly marked by the law of the 8<sup>th</sup> of December of 1880, declaring the telegraphic lines subject to the federal authorities, on account of their constituting a general way of communication, which could not be erected without permission of the Federation in leaving the limits of one single State. The faculty of the railways to transmit messages that were not for their service or for that of the travellers, was at once commenced to be limited, till it was openly suppressed; and finally, by means of contracts made with the Galveston cable company and the powerful «Western Union Telegraph Company» of the United States, the international service has been exclusively left in the hands of our Government and of those two companies.

Has this policy resolved any purely economic considerations, as it seems to be at first sight, or are the preponderant causes at the bottom more of a political nature in its conception and development? The official documents we have seen, do not throw any light on this subject; for this reason, and upon the word of simple chroniclers, it only remains to us to state facts, and amongst which the very important one, that up to now, no one has protested against this system. Probably in this case, as in many others, the nation, in seeing its urgent necessity of every kind of communications realized in a practical spirit, which formerly was very seldom with us, lets the government do as it thinks most convenient as long as public peace is assured and that its economic progress is not paralyzed, without which all the rest could not be realizable in the future.

\* \* \*

We think it is time that we should finish this chapter, which we will do in dedicating a few words to the telephones.

This improvement, qualified by some thinkers as the greatest scientific wonder of the XIX century,





even competing with steam, telegraph and other inventions, has already acquired ample letters of naturalization with us, being used in preference to the telegraph, not only in towns, but also in the country, local railways and even by some of the States on their private lines.

According to the already mentioned «Statistical Annual» of the Department of Public Works, 5,805 apparatus with 6,562 kilometers of wire were in use in town lines at the end of the year 1901 and 2,869 apparatus with 27,057 kilometers on out of town lines.

No federal entity is without having some telephonic lines in its territory: the one that has the least seems to be Sonora (a little over 46 kilometers), and the one that has most is Guanajuato (3,007 kilometers). Forty seven railway and tram companies are using telephonic lines 1,738 kilometers, in length making the telephonic network of the Republic come up to the end of 1901 to 35,357 kilometers.

\* \*

Therefore, the Republic has more than 105,000 kilometers of wire, which, by telegraph or telephone keeps up the communication between its inhabitants and puts them in contact with the rest of the civilized world. What an immense difference since 1865, when Mexico had hardly one thousand kilometers of telegraphic wires and when the line drawn out between the old Palace of the Viceroy and the historical rock of Chapultepec was judged to be worth special mention in the Memorial of the Minister of Public Works at that time!

## CHAPTER V

### URBAN PUBLIC WORKS. THE DRAINAGE OF THE VALLEY AND IMPROVEMENTS OF THE CITY OF MEXICO.

ONE of the sad results of the perpetual Mexican revolutions consisted in not having improved our old colonial towns during the first half century of our independent life, limiting ourselves at the most to adapt extremely bad prisons, schools and all kind of offices, sometimes a convent, college or clerical palace, which, by almost fortuitous circumstances escaped the dispersion of the property which was nationalized, and which, pursuing high political motives, the Reformers were obliged to disperse in all directions, without ever gathering for themselves, nor in any case, even an atom of those riches.

In all the circuits of our territory, from Chihuahua to Yucatan, the improvement of the old towns was afterwards, under the protection of public tranquillity, gradually commenced with, and markets and hospitals, schools and theatres, were rising every day with more generality, it being only a pity, that with deplorable frequency it was more thought of things of show than of real utility.

Notwithstanding, we are now comprehending, that the dotation of potable water, wholesome and in abundance, the construction of sewers, the formation of extensive parks, where even the most humble citizen may enjoy the sun and fresh air, and other similar things, constitute indispensable necessities for progress and even for the life of towns, and it is to be hoped that these ideas may every day take more root and to extend themselves.

It is impossible to enumerate even all the improvements already realized in our principal towns in the interior of the country, because space to do so is inadequate: we hope, therefore, that the reader may allow us to occupy ourselves almost exclusively of that made by the federal Government, above all in the City of Mexico and to speak with some extensiveness only of the very important works of the Drainage of the Valley and improvements of the City of Mexico, as they form the principal ones.





besieged, it defended itself with great and tenacious heroism; thousands of houses were demolished, many of the canals obstructed and the wall of Netzahualcoyotl cut so as to allow the Spanish ships to pass.

The conquerors, in taking possession of the city, found it razed to the ground, and they were of the opinion, that the new one should be built on a more suitable site, but against this judicious opinion prevailed the one of Cortés, who expressed himself thus: «As in the time of the Indians this city had been the mistress of the other neighbouring Provinces, it stood to reason, that it should also be so in time of the Christians; that is to say, that inasmuch as God Our Lord had been offended in this city by sacrifices and other idolatries, it might please Him, that His name should here be more honoured and magnified than in any other part on earth.»

The new city was commenced to be built towards the end of 1521 and was devided in two parts: an interior quadrangle taken possession of by the Spaniards, and an other exterior one, inhabited by the Indians, separated from each other by a flowing canal: to the East by the Santísima Street and its prolongations, to the South, by the line of San Jerónimo, to the West by the Santa Isabel Street and to the North by the line that passes at the back of Santo Domingo. Within these boundaries the Spaniards planned out the streets of the city, in lines from the East to the West and from the North to the South; but being ignorant of the terrible effects of the waters of the lagoons during the years of heavy rains, they neglected to preserve the canals that had to direct them and stopped up many to form the surface of the streets. For the good of the Capital itself, the extension of the lagoon was gradually reduced during the whole first half of the XVI century, and the fears, that inundations as the three occurring before the time of the conquest might repeat themselves, having disappeared, when the abundant rainfall of 17<sup>th</sup> of September 1555 brought up the level of the lagoon as far as to completely cover the city and the neighbouring villages. It was then decided to close the locks of the various causeways, which served as dikes, to repair those parts of them that were destroyed during the years of licentiousness following the conquest and to form a new mound to the East, similar to the old one of the Indians, from the causeway of Guadalupe to the one of Ixtapalapa, in order to detain the waters of the lagoon of Texcoco.

From this period date the first projects for the drainage of the Valley; one of them was the one of governor Ruiz Gonzalez, the details of which we do not know, but which seemed to have been similar to the one of Francis Gudiel, who proposed, with remarkable foresight, that the city should not stick to the simple system of safeguarding itself by forming embankments and causeways, but to find a radical remedy in forcing the abundant waters of the river Cuautitlan out of the Valley in sufficient quantity and so much only as to curtail the damage they caused without depriving the «lakes» and canals of the quantity necessary for public service. According to the aforesaid project, the outlet of the river, the



Engineer Emmanuel Contreras

*The Drainage of the Valley of Mexico* (1).—The aztec tribe, after a long and ominous peregrination, persecuted and in a sorrowful plight, arrived in the beautiful valley of Mexico, surrounded by high mountains covered with woods and at its base washed by a vast lagoon, out of which rose some deserted islets, between jungle and aquatic plants. The priests of the tribes marked out the barren islands, not coveted by the inhabitants bordering on the lagoons, as the place indicated by the the oracles for the spot of the strange people; the Aztecs built their temples to the war-god and the humble huts on them in which they had finally to make an end of their wandering life.

The patient labour of the Aztecs gradually transformed the miserable region in which they settled down; the islets were joined to each other; layers of earth were put on wooden rafts and reeds, cultivating real floating kitchen-gardens (*chinampas*); later on, and already respected by their neighbours for their military genius, they joined their rising city to the borders of the lagoon by causeways, leading from the temple to the four cardinal points; they regulated the canals for the inland traffic and built bridges to facilitate the communications between the islets.

The isolated state of the *Mexica* City gave it a great military superiority; but on the other hand its position in the middle of the «lake» exposed it to serious dangers. In fact, as the waters from the Valley or rather from the extensive bowl had no outlet whatever, all the mountain streams, surrounding it, flowed to its base, and in times of heavy rains, inundated the city, as it happened in 1449, in which year the quantity of water flowing into the lagoon was so great, that many houses were destroyed and the inhabitants had for a long time to take refuge to the canoes. The wise king of Texcoco, Netzahualcoyotl, having been consulted by the one of Mexico in such difficult circumstances, conceived the idea of constructing a dike to the East of the Aztec Capital, so as to form a separate basin that would close in the waters in passing from the corresponding level. This admirable work was concisely carried out, and, as a chronicler says: «it was a most heroic enterprise and brave hearts to attempt it, because the wall, which had more than twenty four feet in width and more than three leagues long, went almost three quarters of a league water inwards, which in some parts was very deep; it had its starting point from Atzacualco to the North of the Valley, towards the South, as far as the foot of the ridges of Itzpalapan and divided the old «lake» in two parts: the Oriental of Tetzcoco of salt water and the Occidental of Mexico of sweet water. When the level of the first rose through the swelling of the rivers flowing into it, it closed all communication with the one of Mexico and, on the other side, during the dry season, the sweet waters of the latter were made to pass in the lagoon of Tetzcoco.»

Thus were things, when an other inundation occurred at the end of the xv century, under the reign of Ahuitzotl, generally attributed to the springs of Coyoacan, which were channelled towards the city, but which was undoubtedly caused by the waters of the Oriental lake, the dike of Netzahualcoyotl being unable to retain it on account of its ruinous state in some parts. The Capital was almost destroyed, but it derived a considerable benefit from it, for the *Mexicas* forced the people reduced to the submission of their growing power, to raise the surface of the City, laying on the old one layers of earth and light volcanic stone (*tezontle*), on which they built their new temples, palaces and houses.

Such was the state of the City of Tenochtitlan when Cortés and his confederates arrived. Closely

(1) A great part of that which is going to be read here, is taken from some annotations which Salvador Echagaray, the engineer, had the kindness to prepare for us, and which appears to us to be following the historical review which, by agreement of the governing Board of the Drainage of the Valley of Mexico, Lewis Gonzalez Obregon wrote in 1900 with remarkable erudition and with a copy of very interesting data. This review, with the complementary works, due to the pen of Messrs. Lewis Espinosa and Isidor Diaz Lombardo, engineers, and to Rosendo Esparza, Secretary of the Board, constitutes the most complete work we know on the drainage of the Valley, and the reader, who may be interested in knowing thoroughly all that relating to this important improvement, would do well in consulting it. Its title is: *Memoria descriptiva del desagüe del Valle de México, 1449-1900*; it consists of two volumes and various plans, being an official publication that can be obtained at the Department of Communications and Public Works.

bitter of them; they represented to the King, that the works of the drainage had not produced the slightest effect, that they only succeeded in giving an outlet to the waters of Zumpango and that neither in the future could the wished for result be obtained on account of the fundamental faultiness of the work directed by the French Cosmographer. In defending himself, he proved, that the waters of the mentioned lagoon and of that of Citlaltepétl had flown through the first underground passage he opened and through the new one cut under the former, till the obstructions impeded it, which showed, that the work was well conceived and that there was no mistake made in the levelling, as Alphonse Arias maintained it to be; he also contended, that the drainage would be complete in making the necessary canals and an open cut instead of the underground passage, for which \$ 600,000 would be wanted and the work to require five or six years.

A few years afterwards (1614) the King had the Dutchman Adrian Boot made to come over in order to examine the works closely, to inform him about the real state of the drainage and to propose the best expedient in order to resolve the created difficulties through the adverse opinions of those interested in the works. Martin had the water made to run through the underground passage in presence of Boot, which, however, did not hinder the latter to say, that the work *was worth nothing*. The years passed uselessly in discussions and consultations, up to 1623, in which year the Viceroyalty was held by the Marquis of Gelvez, who, so as to resolve the necessity of the drainage, tried to make *an experiment*, stopping, in fact, the works which Martin made in Nochistongo and ordered, that entrance to the «lake» should be given to «all the streams which it formerly had, letting the river Cuautitlan flow in it, which at that time was drained through the open cut and the tunnel of the works,» the result of which was, that the «lake» of Texcoco rose nearly half a yard in four months and that the city suffered great damages. In fact, the mentioned river, disembodying itself in the lake of Zumpango instead of coming out of the Valley, filled that basin and through the one of San Cristóbal, filled the one of Texcoco the waters of which in their turn inundated the city.

It was in vain that the Municipality urged for three years to have the evils caused through the Viceroy Gelvez remedied; about the middle of 1627 the waters rose 8 inches in nineteen days, and continued rising rapidly till almost the whole city was covered, it being necessary to strengthen and to repair the dikes and to continue the work at Nochistongo, which was put under the direction of the Jesuits.

The drainage work in 1628, from the lake of Zumpango to its end was 15,830 Spanish yards (about 14,445 English yards) long, of which 8,130 Spanish yards were underground and 7,700 Spanish yards of an open cut, the greatest depth of the underground passage reached 68 Spanish yards (1).

The year 1629 was one of misfortunes without precedent for the city, the accounts given of the inundation being heart-rending in the extreme and which was then termed by the chroniclers as *the heavy shower of St. Matthew*, as it fell on the 21<sup>st</sup> of September of that year «but so strong and continuous, commencing the night before and lasting heavily for thirty six hours without interruption.» Suffice to say, that the misery of the inhabitants of the city was so great and so many persons perished (thirty thousand Indians, according to the Archbishop Francis Manzo y Zúñiga), that it was seriously thought of removing the Capital to a less unsuitable site. Henry Martin was imprisoned with irritating injustice, under the accusation of being the author of these misfortunes on account of the imperfections of his work, and even the Jesuits, who had charge of and had somewhat improved on it, were made the target of the popular fury, notwithstanding the religious ideas predominant at that period, which they alone succeeded in pacifying by force of inexhaustible charity and self-denial and unequivocal patience.

In spite of the intelligent efforts made by Martin, set free so that he might remove the many evils from the city, these lasted for many years, till time and scantiness of rain made the waters disappear.

(1) Up to here we have the annotations of the eminent engineer Mr. Echagaray, to whom we are very pleased to give a public testimonial of gratefulness for the condescension in having prepared us not only in that which precedes and which we have copied literally, but also on commerce and other matters, of which we have taken advantage in various parts of our contribution to this book.



excess of water, and of the lakes, would be made through an open canal contiguous to Huehuetoca, where the mountain chain, surrounding the Valley, sinks notably.

More than twenty four years passed without thinking again of the drainage, when a new inundation caused to awake the drowsy interest in this matter, giving origin to the projects of Sanchez Obregon and Arciniega, which consisted in making the waters of the river Cuautitlan to leave through an arched canyon between the hills of Sincoque and the ridge of Nochistongo, but were not carried out and forgotten after the imminence of the danger had passed.

The city continued to prosper, in spite of the damages caused by the two inundations just mentioned, being the principal one of America at the beginning of the xvii century, as much as regards its population as to its buildings, when an other inundation covered in 1606 almost the whole town, causing serious damages on account of the prolonged presence of the waters in the streets and houses. In the first instance the ordinary alleviating steps were taken, the dike of San Lázaro and the various causeways, which impeded the access of the waters to the interior of the city, were repaired, and enclosed it in a basin of an inferior level to the one of the surrounding lagoons; but the Viceroy, the Marquis of Montes Claros, as well as his predecessors Lewis de Velasco the first and Martin Enriquez, wishing to give to the question of drainage a rational solution, the land to the North East was again studied with the intention of fixing the most convenient point to drain the waters of the Valley.

Unfortunately, the realization of the anxiously looked for work was neither this time carried out and the city was again inundated in 1607, a few days before the Viceroyalty was taken possession of by Lewis de Velasco the second, who, after attending to the most urgent wants in order to lessen the damages caused by the inundation, convoked the persons versed in the subject that they might present projects on the drainage, offering a prize to the one resulting the best.

From the numerous plans suggested, some of them were rejected as absurd and those that seemed practicable were chosen in order to study them carefully on the ground itself. The preference was given to the plan presented by a Frenchman Henri Martin by name (more commonly known by the spanishified name of Enrico Martinez), and by an edict of 21<sup>st</sup> of October 1607, the order was given to commence working in opening an underground passage at Nochistongo near Huehuetoca, so as to give an outlet to the waters of the river Cuautitlan and of the lagoon of Zumpango. It was ordered that the proprietors of the city should pay a tax towards the expenses of the works; the Indians that had to work at them were publicly summoned; hospitals and storehouses were got ready for the benefit of the workmen, in one word, such a complete organization was given to the gigantic enterprise, inaugurated by the Viceroy himself on the 28<sup>th</sup> of November by striking the first blow, that «at the end of eleven months of continuous working, in which only the spade and shovel were used, as the soil was loose and undermined by the overflow of water, the underground passage or subterranean gallery, measuring more than 6.600 meters in length by 3'50 wide and 4'20 high, was concluded...» «In the annals of the enterprise, the history does not record any feat so wonderful as the opening of that gallery in such a short space of time, and taking in consideration the period in which it was carried out, surely no other people in the world would have been able to boast of a similar feat; in Mexico alone could such a numerous population be found, accustomed to working mines and submissive under the merciless ferula of the conqueror. Three elements entered in consortion at the execution of the work: a strong will to command, intelligence to direct and patience to obey. The success was the result of these factors (1).»

The filtrations and the corrosion produced by the current in the interior of the tunnel, caused frequent defects, which they tried to check by the use of wooden structures, as used in mines, fortifying the most dangerous parts later on with walls and arches of stone and mortar on account of the uselessness of the former; but such remedies did not suffice and the obstruction of the gallery continued. The enemies of Henry Martin took to a great extent advantage of these circumstances, Alphonse Arias being the most

(1) A. de Humboldt's: *Ensayo político sobre la Nueva España*.

»Such is the summary of the history of the drainage, three times secular in the greatest part of the period it embraces, but principally in the eighteenth century...»

It is, however, only just to state, that having passed through so many vicissitudes and vacillations, a decided earnestness was already perceived since 1637 in converting the extensive work conceived and commenced by Henry Martinez in an open cut as it was indicated by its author from the beginning, and that in the XVIII century the opening of the cutting was finally finished, for in 1767, and after a previous report of the engineer and Lieutenant Colonel Richard Aylmer, the Marquis of Croix, the then Viceroy, who took the greatest and most laudable interest in it, ordered, that the excavation of that which was still left to make of the cutting, should be given to the highest bidder, to substitute the old underground passage of Nochistongo by a canal. The highest bid was the one of the Tribunal of Commerce of Mexico which bound itself to execute the work in five years and for the sum of eight hundred thousand pesos with two important conditions: if more should be invested in the works, the Tribunal of Commerce would supply the rest and in case of not using the whole sum calculated, it would return the amount economized. Previous to a prolongation of time agreed upon, the Tribunal delivered in this way the old tunnel converted into a gigantic and imposing canal on the 8<sup>th</sup> of June 1789, returning 133.873 pesos, 4 reals and 4 grains of the agreed sum of eight hundred thousand pesos.

It is useless to say, that all the details referring to the drainage of the Valley are extremely interesting, be it from an historical or technical point of view; but in the material impossibility of finding room for them in these pages, the reader will allow us to let our worthy presbyter Joseph Mary Lewis Mora speak, who, commissioned in 1823 by the Provincial Deputation of Mexico to visit and to inspect the works, produced a most interesting account, the compilement of which, in the opinion of Lewis Gonzalez y Obregon and other experts in literary matters, is due to the well made pen of Doctor Joseph Bernard Couto. Proceeding thus, we shall succeed in giving to the reader the advantage of forming, amongst many others, a complete idea, with a clearness, which we should not know to give him, of the technical conception of the works, which, with regard to the drainage, the colonial rule bequeathed us:

«Before speaking on the actual state of the drainage, may it be permitted to me, your Excellency, to go back a step, with a view to a careful examination of the magnificent and variegated picture of the works undertaken with the object of putting the Capital under shelter from all danger. In casting a glance on it, three distinct species of the works are seen traced from one extreme to the other: the first ones directed to avoid the swelling of the lagoons, which was the first step to the inundations; the second ones to drain them off directly they commenced swelling, and the third ones to check the stream of the waters in case of overflowing its banks, they were to come upon the Capital.

»To the first class belong: 1<sup>st</sup>, the dam of the King, thrown on the floods, which from Pachuca came down to Zumpango; 2<sup>nd</sup>, the celebrated canal cutting the mountain Nochistongo to direct the waters of the river Cuautitlan out of the Valley, avoiding their entrance in Zumpango; 3<sup>rd</sup>, the dike raised on this lagoon with the object of avoiding its flowing over into San Cristóbal; 4<sup>th</sup>, the causeway of San Cristóbal, constructed on the southern shore of the lagoon of the same name, to impede its draining in Texcuco; 5<sup>th</sup>, the dam and dike of Oculman, towards the East of Texcuco, to detain the torrents which on that side came down to this lake; 6<sup>th</sup>, the causeway and sluice of Tlahuac, constructed with the object of avoiding that Chalco might flow in Xochimilco; 7<sup>th</sup>, the sluice and causeway of Mexicalcingo, the first one thrown on the arm of the lagoon of Xochimilco which crosses the extreme oriental part of the city to flow ultimately in Texcuco.

»Of the second class are: 1<sup>st</sup>, the canal that emerges directly at Zumpango, the head of which is lost in the lagoon, and terminates in the Gavillero; 2<sup>nd</sup>, the general drainage canal for all lagoons, which has hardly been commenced.

»To the last class belong the causeways of San Antonio Abad, la Piedad and Guadalupe, and the famous wall of San Lázaro, erected in order to check the waters of Texcuco in case of a sudden rush on the city. This gigantic dike completes the picture of the works finished to put Mexico out of the

And so as not to tire our readers, we give here the very applicable synthesis of Lewis Gonzalez Obregon (1), of that which passed during the colonial rule:

«In studying the history of the hydraulic works of Nochistongo in the Archives of Mexico,—said Humboldt,—one observes a continuous irresolution on the part of the governors and a fluctuation of opinions and ideas, which increase the danger instead of removing it.

»There is nothing more certain than the anterior assertion of the man of wisdom *par excellence*. We can certify it, as we have examined the *forty four* volumes, one by one of which the *twenty eighth* is double, forming the copious collection referring to the branch of drainage and which is kept in the Na-

tional Archive; inasmuch as the critical reports of the visits paid to the works by the Viceroys, the suggestions of superintending judges and of architects, the advice of attorneys and the private opinions of monk-experts, who were consulted, show the diversity of judgement expressed by all and as a consequence, the frequent anarchy reigning in the execution of the works.

»Besides, one notes in examining those documents, as Humboldt also fitly said, an impetuous activity every 15 to 20 years, when the fury of the storms increased the quantity of water in the lagoons and threatened the imminent danger of an inundation, and a punishable apathy when during the years of sterility, for the want of rain, not the remotest glimpse of the risk of inundations was seen.

»In the first case, every one came eagerly forward presenting the most extravagant and impracticable projects; consultations and viewing followed each other, multiplying the writings of civil and military engineers, of secular and religious bodies. They cried out against

the shameful state in which the works were left, taxes were levied to get the necessary resources, the work of repairing, clearing away the obstructions and cleaning the canals was actively pushed on. In the second case, the very forlornness soared its lazy wings on the works: the falling in of the work done was frequent and the obstructions continuous; hardly a few badly paid and still worse treated labourers were employed at the work; the expedients were getting dusty on the table of the superintending judge and only when a new Viceroy came, a visit was paid to the works by the recently arrived governor with a retinue of officials and friends by way of an excursion and previous distribution of heavy outlays, the details of which were given by a minute record of the proceedings written by the public notary of the drainage work, beginning with the names of the visitors, excellencies, lordships and reverend gentlemen, finishing with the excentric opinions of architects who never agreed in their councils.

(1) The mentioned Memorial, vol. I, page 207.



Engineer Francis de Garay



Doctor Mora concludes his valuable report with a description of the state in which the works were kept and a plan to continue them. Useless to say, that the former was deplorable and the latter was not executed.

And in arriving now at our modern times, although the only result may be, that the small merit, if any, of the author of this chapter consists alone of having collected strange productions and writings, let us grant the word to the already mentioned Lewis Gonzalez Obregon, who, in making a clear and methodical summary of the «Report on the drainage works,» the second book of which he wrote with so much erudition, expresses himself thus:

«The new parts of the drainage works were initiated in the XVII century by a modest neighbour of Michoacan. Simon Mendez, by name, proposed about March 1630, the opening of a canal that would have its starting point from the lake of Tetzcoco, which, in being joined to a tunnel 13.000 meters long and carried out with the help of 28 air-shafts, would give an outlet to the waters of the Valley through the river Tequisquiac. The Viceroy accepted Mendez's plan and even four air-shafts out of the 28 proposed were sunk; but the project was afterwards abandoned and no one mentioned it again till in 1774 the illustrious mathematician and counsellor Joachim Velazquez de Leon was consulted on the possibility of a direct drainage of the Valley of Mexico, ascertained the level of the surface, accepted and proposed the line indicated by Mendez, the line which was successively approved of by the learned Baron de Humboldt in 1803, also followed in their plans by the North-American L. Smith in 1848 and the Mexican engineer Francis de Garay in 1856.

»The plan of engineer Garay had obtained the prize of \$ 12.000 at the competition taken place during the Presidency of general Comonfort, and consisted in the opening of a canal that would start from the ex-landmark of San Lázaro, connecting it with a tunnel, the volume of water being calculated at 33 cubic meters per second, and disemboguing in the stream of Ametlac, a confluent of the river Tequisquiac.

»But the political convulsions, agitating the country at that time, the want of resources and the absence of any danger of inundation, contributed that Garay's project was not realized.

»The heavy rains of 1865, inundating the city and the Valley were wanted that the authorities should again preoccupy themselves on the problem of the drainage, and in order to obtain this object, the Secretary of the Department of Encouragement, Francis Somera, published a decree, dated 27<sup>th</sup> of April 1866, ordering that the drainage works should be commenced according to the ideas proposed by Lieutenant Smith, and for this the engineer Michael Iglesias was commissioned, who elected the tableland of Acatlan to trace the line of the tunnel, where the air-shafts should be sunk, the tunnel to have its outlet in the ravine of Tequisquiac instead of the one of Ametlac, proposed by Francis de Garay in his project of 1856.

»The works were commenced under the direction of Mr. Iglesias, but again the political events paralyzed the prosecution of them, till Blase Barórcel, at that time Secretary of Encouragement, the Republic having been restored, desirous to adopt the most advantageous project, ordered that a comparative study of the projects presented should be made: Mr. Garay proposed, as we have already said, the line of Ametlac; Mr. Iglesias had made a plan by Acatlan; the engineer Richard Orozco, had proposed, that the old cut of Nochistongo should be profited for the drainage, and James Bently, partisan of the Southern line, indicated the construction of a tunnel that had to have its outlet in the Valley of Totolapa.

»The anterior projects having been minutely studied, the one of Mr. Iglesias was chosen and the works having again been undertaken, during the Presidency of Benedict Juarez, the cut of the mouth at Tequisquiac was carried out, more than two kilometers long and 375 meters of the preparatory gallery

sioned to examine and to report on the origin and actual state of the works undertaken for the drainage of the lagoons of the Valley of Mexico. Printed by order and at the expense of the Deputation. Mexico, 1823. Printing-office, manager, Joseph Jimeno, Medinas Street, n.º 6.

It is to the kindness of Lewis Gonzalez Obregon, that we owe the knowledge of this very interesting Memorial, the copies of which are already very scarce.



ordinary risks of an inundation. What works! What immense amounts of money spent on the preservation of one town alone!

»But why do so many works, so distinct amongst themselves, co-operate unanimously to the same object? Here is a question, the answer to which will perhaps not be rightly understood without having the map before us. I shall, however, make an effort, to give all possible clearness to my reply, recapitulating in it the most noteworthy and important points of this report.

»The relative position of Mexico to the lagoons forming the spread-out extension of the Valley, makes it to be exposed to the inundations of all of them, with the only exception of the one of Tezcucuo, the average level of which is lower than the site of the city. However, in disemboguing all the mediate and immediate lagoons in this one, not only was the whole of that height lost, but the surface of the waters came to rise considerably on the city. Thus, it has constantly been, that all the inundations were caused through the flowing over of this lake, the nearest to the Capital.

»To avoid the swelling of Tezcucuo was, therefore, what had to be done in order to save Mexico, and it was very obvious, that in closing the entrance of the streams, which made it swell up, appeared as the most simple remedy to succeed in it. This is the origin of those magnificent and expensive works, the description of which has occupied us up to now. It now remains for us to show how every one of them contributes to obtain that object.

»The sluice of Mexicalcingo obstructs the communication between the lagoons of Tezcucuo and Xochimilco, avoiding in this way that the last one flows in the first. As, however, the one of Xochimilco might make this obstacle useless by the water flowing over the sluice, if it were left to accumulate much, the Government was obliged to impede it at all hazard. The lagoon of Chalco, higher than the one of Xochimilco, was the one which more considerably swelled it; for this reason it was resolved to close the communication between them, separating them by means of the causeway of Tlahuac.

»The streams rushing down from the East to Tezcucuo by way of Oculman, did not little contribute to the rising of this lagoon. The dike constructed in the proximity of that village, impedes now their coming down.

»But of all the waters of Tezcucuo, the most considerable and the most fatal for Mexico has at all times been the lagoon of San Cristóbal. Its flowing out in that of Tezcucuo, was always the forerunner of an inundation which unfortunately never failed. If, therefore, any work had to be undertaken to provide for the security of Mexico, it was the one of a dike refraining this torrent. The Government understood it and in fact ordered to construct the causeway that exists to-day.

»This would, however, not be sufficient as yet in order to accomplish its object, if the lagoon of Zumpango could freely discharge itself in San Cristóbal. The last lake never swelled to a considerable extent at Tezcucuo by itself. Only the abundant leakages of Zumpango made it flow over. This lagoon was always the first cause of the inundations and the one which principally called the attention of the Viceroy. It is on account of this that the first works of the drainage was immediately undertaken on it. To avoid its swelling and to impede its communication with San Cristóbal, has at all times been the efforts of the Government. In order to obtain this object, with regard to the first part, the entrance was closed to the streams, which principally increased its waters. With this object in view, the canal of Nochistongo was opened, through which the river Cuautitlan flows to-day, without touching at Zumpango, and the dam of the Rey was thrown against the floods of Pachuca. With regard to the second part, the dike which checks it, was erected on the shore facing San Cristóbal. These precautions not being as yet sufficient, a canal was afterwards opened drawing off the water direct to Zumpango.

»Here are the methods by which so many works uniformly contribute to the security of Mexico. When, however, in spite of all of them the lagoon of Tezcucuo should rise, the wall of San Lázaro would avoid its flowing in the city while other measures to the effect could be dictated (1).»

(1) A Memorial presented to the Excm. Provincial Deputation by the member Dr. Joseph Mary Mora commis-

the levelings practiced in the Valley, with the idea that the said plan of comparison should be 10 meters below the marked line in the Western tower of the Cathedral, in the same spot which was occupied by the inferior tangent of the Aztec Calendar, before being removed to the Museum. The uniform gradient of the bottom of the canal is at the rate of 0·187 per kilometer.

»The depth of the canal, in respect to the surface of the ground, is 5<sup>m</sup>75 at its starting point, and in its last kilometers 21<sup>m</sup>28. The taluses are at 45°, the width at the bottom is 5 meters in the first 20 kilometers and 6<sup>m</sup>50 in the rest of the canal. The canal may, therefore, be considered in the first 20 kilometers mentioned as the prolongation of the network of the sewers of the city, and does not receive more water than that which can pass through them and that which comes down from the lagoon of Xochimilco, for which a normal outlet of 5 cubic meters has been calculated, though in certain circumstances, as for instance in heavy rains, it can receive a greater quantity of water; the rest of the canal is in communication with the lagoon of Tetzcooco and is destined to regulate the waters of this lagoon, which is the lowest of those of the Valley and where the water from all parts can be brought to, for which reason the canal was calculated for the greatest quantity that can pass through the tunnel, which is 17<sup>m</sup>50 per second.

»The quality of the soil, in which the canal was opened, is principally clayey. In the last kilometers, a rather resistant calcareous matter, and following towards the South, a series of layers of alluvion resting on topus were met with. Filtrations proceeding from distinct levels and in sufficient abundance to produce at least an outlet of water of 2<sup>m</sup>50 per second have taken place in the stratum of soil passed through.

»In order to facilitate the crossing of railways, roads and water-ducts over the canal, real works of art have been constructed of which four aqueducts for the waters of the Northern canal, of the river Consulado, the river Unido and of the river Guadalupe, are finished, leaving still to be constructed the one of the kilometer 27, four iron bridges for the Interoceanic Railway, the tramways of the Peñon (Rock) and the Mexican and Hidalgo railways, and nine bridges, destined for the passing over of high roads and those of neighbouring places, situated at Vaquita, farm of Aragon, village of Aragon, Zacualco, Santa Clara Tulpetlac, San Cristóbal, San Andrés and Zumpango, only those of Cerro Gordo, Tonanitla and Santa Ana have still to be constructed. Besides these masterly pieces of work, a dam and the communication of the canal with the lagoon of Tetzcooco have been made.

»The dam between the canal and the tunnel is worthy to be mentioned. The faces are of recent construction: the front part is strengthened by three large pilasters. The upper part, i.e. the zone where the wheels moving the sluices are placed, is eight meters wide. There are three sluices, moved by the said wheels, provided with wire-cables of great resistance, the sluices are riding on rollers which move on frames fixed in the brick masonry. In drawing up the sluices, the water falls in torrents, forming a cascade, on account of the difference in the level that exists between the bottom of the canal and base



Engineer Lewis Espinosa

for the tunnel; sinking 24 air-shafts, though without arriving at the level of it; to establish storehouses, to install some windlasses and to indemnify the proprietors of land for the opening of the canal.

»However worthy of enlogy the projects, till then presented, may have been, and the efforts made by the authors of them in carrying on the works, we must confess, that even before 1879, the engineers had only laid the foundation in more or less acceptable hypothesis, so as to calculate the volume of water which had to be extracted from the Valley and the dimensions that had to be given to the canal and tunnel. Besides, the afore mentioned engineers calculated these dimensions and storm-waters for extraordinary periods and excessive in rains, resulting in such enormous expenses, that it made the authorities vacillate to lay them out.

»Lewis Espinosa, engineer, who in 1871 commenced holding an employment at the Drainage works, separating himself temporarily in 1876 to return again in the following year of 1877, presented in 1879, when the engineer Emmanuel Fernandez Leal was in charge of the Department of Encouragement, an interesting and lucid report, containing the complete and definite project of the Drainage of the Valley of Mexico, a project which was approved by the President of the Republic, General Porphyrius Diaz, dated 30<sup>th</sup> of September of the same year of 1879, and a project, which finally is the one that has so successfully been carried out with a few alterations.

»Mr. Espinosa, as modest as he was learned, based his ideas on scientific observations and not on fantastic hypothesis. He examined with serenity and judgement the project of 1856 of Mr. Garay and the plan of the works commenced in 1866 by Mr. Iglesias. He discussed the outlet and volume of water to which an outlet out of the Valley had to be given, successively calculated by Smith in 8 cubic meters per second, by Garay in 33 and by Iglesias in 41, based on udometric measurements and in the waste caused by the absorption of the soil.

»Mr. Espinosa supported his calculations on a more solid basis. He fixed the output of the tunnel at 17 cubic meters per second, he went upon the variations of the level of the lake of Tetzcoco, observed during a period of fifteen years, and in view of the exact dimensions of the surface of that lake. The exact volume fixed, it was easy for him to chose the oval form for the transversal section of the tunnel, the dimensions and gradient, the same as those of the canal, as well as the direction of the plan and material that had to be employed, which have been perfected in carrying out the works. Lastly, the excellency of Mr. Espinosa's project over those of his predecessors may be judged, in which these had only preoccupied themselves with the general drainage of the Valley, but without adapting it to the works of sanitary improvement of the City of Mexico, a subject on which Mr. Espinosa fixed himself with just reason and obtained his object.

»But in reality, the proposed works of Mr. Espinosa did only commence being realized years after the date on which they were approved, for although some of it was carried out, it was relatively little.

»In passing on to the technical part of the work, Mr. Gonzalez Obregon gives us the following account of it:

»The works of the Drainage, which at the present moment are in working order and in a finished state, have three objects: the first, to impede the inundations; the second, to receive the dirty waters and residue of the City of Mexico, and the third, to control the waters of this same Valley and to drain off from it when necessary those that might cause damage.

»The work consists of three principal parts: a canal, a tunnel and a desemboguing cut.

»The canal, which has its starting point to the East of the City of Mexico, in the quarter of San Lázaro, follows the Oriental side of the Guadalupe ridge of mountains, between this ridge and the lagoon of Tetzcoco; a little before kilometer 20, it changes its course towards the Northwest, crosses diagonally the lagoon of San Cristóbal, part of the one of Xaltocan and part of the one of Zumpango, finishing, before touching the tunnel, in the neighbourhood of the village of Zumpango.

»The total length of the canal is 47 kilometers 527 meters. The bottom has at its commencement + 2<sup>m</sup>25 of level measurement and — 6<sup>m</sup>63 at its end, in relation to the plan of comparison adopted for



Leal, the then first under Secretary of Public Works, of a committee appointed by the City Corporation, and the engineer Lewis Espinosa, director of the works and author of the definite project. The works having been examined, general Diaz understood their magnitude and transcendancy; he graphically and rightly qualified them, as *works of public health*.

»General Diaz soon afterwards presented an initiative to Congress, which published a decree, dated 16<sup>th</sup> of December 1885, fixing the annual sum of \$ 400,000 for the execution of the works of the Drainage. The directive Board was then formed by general Diaz for the administration of the funds of the said works, leaving Mr. Espinosa as director and charged the Department of Public Works with the technical part of the project (1).

»The directive Board (Junta directiva) having been installed in February 1886, the works were commenced with. The Board was constituted by Messrs. general Peter Rincon Gallardo, president; the licentiate Joseph Yves Limantour, Francis Rivas Góngora, Augustin Cerdan and Casimir del Collado, as voting members; and as substitutes, Francis Somera, Lewis G. Lavie, Peter del Valle, Emmanuel Campero, Lewis García Pimentel and Rosendo Esparza, secretary.

»It is needless to enhance the patriotic zeal and earnest desire shown by each of the members of the Board in the fulfillment of their duties, but it is only just to enlogize in particular the licentiate Joseph Yves Limantour, who was one of those that distinguished himself for his recognized intelligence and knowledge, for his indefatigable and astonishing activity and afterwards for his opportune and valuable influence as Home Secretary and of the Treasury and Public Debt Department.

»Mr. Limantour visited personally the works, introduced economies in useless expenses, examined and compiled the contracts made with the foreign companies for the execution of the plans and even in these he proposed important reforms, for the technical part of the works, on account of his constant study and continuous observation, came familiar to him.

»But Mr. Limantour did still more. Not content in assisting at the weekly meetings of the Board, and not satisfied in having devoted mornings and evenings to the commitments put in his charge by the Board, notwithstanding the manifold occupations of the high office which he still performed, he studied some times in his private house with the director of the works, the most convenient modifications to be made in the plans, so as to push on and make the works more fructuous.

»The licentiate Paul Macedo and the engineers Gabriel Mancera and Emmanuel Mary Contreras deserve also special praise for their activity and elucidation, recognized by everybody (2).

»A enlogy is also due to Rosendo Esparza, the modest, intelligent, just and laborious secretary of the Board, who, in the obligations of his office, showed a superior aptitude and faithfully fulfilled his duties.

»When on the 9<sup>th</sup> of February 1886 the directive Board of the Drainage took charge of the works, they were executed by administration, both in the canal and in the tunnel, but giving more impulse to

(1) This directive Board, as well as that of the sanitary improvement, of which we shall speak hereafter, has given their services gratuitously. (*Note from the editor.*)

(2) It is only for the reason, that the writing we are copying should not be mutilated and at the editor's friendly and earnest desire, that the author allows his name to be continued in this passage: his services in the drainage from 1895 to 1900, although they were given willingly, are indeed insignificant, above all, if they are compared with those of the engineers Gabriel Mancera and Emmanuel Mary Contreras. From 1875, and before the House of Representatives, the first one brought in a Bill in which the execution of the necessary works for the direct drainage of the city by means of two or more collecting sewers, a canal and a tunnel in Tequisquiac was asked for, as well as the appointment of a directive Board, the creation of a special fund for the execution of the works and to contract a loan; all this has later on been realized, proving the clear-sightedness of Mr. Mancera, whose other services rendered to the drainage we cannot enumerate for fear of hurting his modesty. Now in reference to Mr. Contreras, it will be sufficient to say, that the Town-Council of the City of Mexico, is busy studying a plan with the object of erecting a monument to his memory and nothing would be more just to preserve amongst its citizens the remembrance of the good and always disinterested services which Mr. Contreras lent during many years to the city and in numerous places of his municipal administration.



of the tunnel, a difference of 2°82. The object of the dam is to regulate the outlet of the waters of the canal and to interrupt them, when, through some circumstance, it is necessary to do so.

»The mouth of the tunnel through which the waters pass, is formed of a vault in a semicircle of a 5 meter radius, resting on two vertical walls; this section gradually diminishes till it gets reduced to the section of the tunnel, so as to form a part of a cone between the commencement and the end of the reduction.

»The tunnel is 10 kilometers, 21 meters and 80 centimeters long, with a curvilinear section formed by four arches which have, respectively: the one of the upper part, 4°180 of chord and 1°570 of key-stone; two lateral arches with a chord of 2°362, and a *radier* with a chord of 2°429 and a key-stone of 0°521; the height is 4°286. The greatest width of the tunnel 4°180 is the chord corresponding to the upper arch.

»The tunnel is lined with brick masonry in the upper part, 0°45 in thickness, and in the lower part, where the water runs, with curved artificial stones, 0°15 in thickness; these stones are made of Portland cement and sand. The level measurement at the bottom of the basin, at the beginning of the tunnel is —9°466 and at its end—17°315; its length, as we have already said, is 10.021°80 and its gradient 0.00069 per meter in the first 2.170°80, 0.00072 in the 5.831 meters following, 0.001 in the other 1.500 that follow, and 0.00135 in the last 520 meters, all these changes are due to the various reforms of details made in the project, varying the section in some, and in others the class of strengthening the walls. The efflux on which the tunnel is calculated is 17 and a half cubic meters per second, as already mentioned. 24 air-shafts 2 meters wide by 3 long at distances of 400 meters from each other were sunk. The depth of the air-shafts varies according to the topography of the ground, the deepest having 93°29 and the least one is 21°89 in depth. The nature of the soil in which the air-shafts were opened varied also, but it is partly formed of clay, marl and pomous tophus.

»At the mouth of the tunnel is the desemboguing cut, the third and last principal part of the three that constitute the works. The cut was the first that was finished. Its length is estimated to be about 2.500 meters and in opening it, the cavity, which was the natural work of the water of the ravine of Acatlan, was taken advantage of, for the cut forms part of this one, the water of the ravine changing its course by way of a special canal derivation.

»In short, the waters and the residues proceeding from the city, and the others which it may be necessary to eject out of the Valley, all run through the canal from San Lázaro to the neighbourhood of Zumpango; here they are received by the tunnel by means of the dam, run through the tunnel and in coming out desembogue in the cut of Tequisquiác as far as the river of the same name; but at a point called Tlamaco, close to Atitlaquia, they are at present deviated to employ them as motive power and afterwards in the irrigation of Actopam; the last portion of it, is received by the river Tula, tributary of the Pánuco and following the course of this one, desembogue finally in the Gulf of Mexico.»

In reviewing the economical and administrative part of the works of the directive Board, which undertook the execution of these works, Mr. Gonzalez Obregon goes on as follows:

«It was in the month of November 1885, that the enthusiast and active general Peter Rincon Gallardo, who was President of the Corporation of the Capital, and the intelligent and laborious alderman of Public Works, engineer Emmanuel Mary Contreras, predisposed, and with a good cause, in favour of the improvement of the hygienic conditions of the city, amongst others on account of its very bad old system of sewers, resolved to have some consultations with General Porphyrius Díaz, President of the Republic, with the object of pushing on the works of the Drainage of the Valley, indispensable for the purposes which Messrs. Rincon Gallardo and Contreras determined to effect, declaring that the City Corporation was disposed to contribute the annual sum of \$ 200.000 so as to give impulse to the works.

»General Díaz embraced the submitted scheme with enthusiasm to its approbation and support. With the clear and characteristic intelligence, with the practical talent he gives impulse to every kind of improvement for the public welfare and guarantee of the interests of the citizens, resolved to visit at once the works of the Drainage in company of the Ministers of Public Works, Treasury and Interior, Ferdinand

utilized and by means of banks made of the soil, the level of the water in the canal was changed so as to allow the dredging-machines to reach the bottom. These machines left off working on the 2<sup>nd</sup> of July 1895, on which date the excavation, that had to be made with the dredging-machines, was concluded; and as the tunnel was already finished by this time, outlet was given for the first time to the waters of the Valley of Mexico through the said tunnel on the 22<sup>nd</sup> of August of 1895, in presence of general Diaz, the Ministers Messrs. Gonzalez Cosío, Romero Rubio, Limantour, Mr. Rincon and the rest of the members of the directive Board, the engineers of the Drainage and many guests.

»The work of regulating the taluses was continued afterwards with labourers and it is calculated, that the total excavation of the great canal amounts to more than 12,000,000 cubic meters.

»Although the contracting companies deserve to be enlorgized for the execution of the works, which many times was very troublesome, before concluding we must neither forget the Mexican engineers Isidor Diaz Lombardo and John Soto Durán, who efficaciously helped at the successful realization of the monumental project of the engineer Lewis Espinosa.

»All the works of the Drainage, from the time the directive Board commenced its active part, i.e. in February 1886, up to the 30<sup>th</sup> of June 1900, on which date they were delivered up to the Department of Communications, amounted to \$ 15,967,778.17.

»They were solemnly inaugurated on the 17<sup>th</sup> of March 1900, with an excursion and a banquet that took place at Zumpango. At the inauguration assisted the President of the Republic, general Porphyrius Diaz, some ministers, various members of the Diplomatic Body, the directive Board of the Drainage, engineers and every class of functionaries, and many guests, amongst which were represented Banking, Commerce, Industry, Art and Letters.»

In conclusion we may say, that according to the most exact data, the amount spent on the drainage from 1607 to 1822 was \$ 7,095,146.75. It has been impossible to search out with any moderate approximation the amounts spent from 1821 to the formation of the directive Board in 1886; judging, however, by some isolated figures which are known, and taking in account the sixty five years intervening between the two dates, some clear-sighted persons reckon that they cannot be less than from two to three million pesos. From 1886 to the 30<sup>th</sup> of June 1900 \$ 15,967,778.17 were spent, according to that already stated. Such a considerable sum, which brings the cost of this secular work to at least \$ 25,000,000, was partly obtained by means of a special loan, with which the city is still burdened, and the issue of important amounts of other Bonds which form part of our federal public debt.

THE SANITARY-IMPROVEMENT OF THE CITY OF MEXICO.—As we have seen, the only object of the drainage works of the Valley was to free the city from inundations, until a few years ago the modest and intelligent engineer Lewis Espinosa called the attention on the necessity of deepening the canal and to lower the level of the tunnel of Tequisquiác, in order that the refuse of the city may thereabouts be thrown out of the Valley. Without this happy innovation, the sewerage of Mexico could not have been executed under the conditions in which it was carried out, since the city is situated on a slightly inclined plain from the West to the East, the under ground drains could not have been constructed to the corresponding depth, or it would have been necessary to fix some powerful pumps at their ends, which would draw up the fluids of the refuse, imposing a permanent and considerable expense on the city. But taking the state of the great canal in consideration, which, as planned by Mr. Espinosa, had to end five meters below the bottom of the old San Lázaro canal, this fall was already counted for and the sewers could be made to empty themselves, in fixing them at a suitable depth. In this state, the study and formation relative to the project was intrusted to the young and studious engineer Robert Gayol in 1888.

Mr. Gayol with his characteristic conscientiousness and assiduity, made an exact study of the sewerage systems adopted in the principal European and American cities and at the end of three years presented a project, which was in the first place submitted to the study of Lewis Espinosa and afterwards to the

the latter. The works of the tunnel were shortly afterwards contracted to Messrs. Read & Campbell, who, in consequence of having laid out a considerable sum of money in labours, found themselves in the necessity of rescinding their contract in 1892. These gentlemen, however, continued giving their services to the works, though only in the character of administrators and under the direction of the Board, up to the conclusion of the tunnel, which was finished on the 31<sup>st</sup> of December 1894 at three o'clock in the morning.

» With regard to the grand canal, the excavation was in the first place contracted with the American company *Bucyrus*, whose president was Colonel Harris. This company brought two one-bucket dredging-machines, machines serving to make the excavations, capable to extract one thousand cubic meters *per diem*; these dredging-machines commenced working on kilometer 22; but at the end of a few months,



Drainage of the Valley of Mexico.—The great canal. Aqueduct-Bridge of the river Guadalupe

the directive Board being desirous to give the most possible impulse to the excavation works, rescinded the contract it had made with the aforesaid company, making an other one with the English company Pearson & Son, who bound themselves to finish the whole of the canal by the month of September 1894; but by a subsequent arrangement made with the directive Board, the allotted time, in which they ought to have finished the canal, was extended to the 1<sup>st</sup> of May 1896, giving them after this date the necessary time to let the filtration water out and also that they might regulate the taluses of the canal up to kilometer 20, a part which was very troublesome for the definite security of the excavation, for in doing so, precipitations and shifting of the soil took place, which the said Mr. Espinosa knew how to combat and to overcome with his accustomed intelligence.

» The contractors at first took to the proceeding of removing the soil by means of day-labourers and to extract the filtration-water by means of centrifugal pumps; but when they arrived at a depth of three meters, they changed the system, making then the excavation with five Couloir dredging-machines of great power, capable of extracting, as we have already said, 3,000 cubic meters *per diem*, and throwing the earth to a distance of more than 200 meters from the axis of the canal. As the dredging-machines could only work to a depth of 15 meters, the waters of the lagoons of Zumpango and Xaltocan were

VOLUME SECOND

Communications and Public works

**Mexico. — Monument to the heroes of the Independence**

PROJECT IN EXECUTION OF ARCHITECT WILLIAM DE HEREDIA



opinion of a committee composed of himself and of the eminent engineers Emmanuel Mary Contreras and Leander Fernandez, who, with a few alterations, approved Mr. Gayol's plan, the Municipality having resolved that its execution should be intrusted to a directive Board, installed in April 1896 and composed of Messrs. Joseph Yves Limantour, as president, general Peter Rincon Gallardo, Paul Macedo, Lewis G. Lavie and the engineers Leander Fernandez, Emmanuel Mary Contreras, Gabriel Mancera and James Mendez.

This directive Board appointed Mr. Gayol, the author of the project, as director of the works and Rosendo Esparza as secretary; and after the detailed plans had been prepared and the employments organized, the works were commenced on the 24<sup>th</sup> of January 1897 under the administrative system and with limited resources.

A year and a half later, when a sufficient experience with regard to the cost of each item of the



Drainage of the Valley of Mexico. Dam and sluice of the tunnel

work had been acquired and the federal Treasury could increase the pecuniary allotment set apart for the works, contracts were made with the French contractors, Messrs. Eugene Letellier and Charles Vezin, who engaged themselves to finish them within four years, receiving the stipulated prices, partly in cash and partly in Obligations of the City of Mexico, guaranteed by the Federation, payable in five years counting from the date of issue with interest at 6 per 100 per annum.

The contractors commenced work in August 1898, pushing it on vigorously later on and finishing it within the stipulated time, and were officially delivered and received as such on the 30<sup>th</sup> of June 1902.

The inhabitants of the town were exposed to great inconvenience by the carrying into effect of such an important work which exacted the removal of the pavements and the soil underneath of all the streets; but at last it was completed with evident benefit to the public, without damaging any of the buildings, as it was feared by many; only zone number 4 is left to be done, or the part comprising the southern limit of the city, as it is indispensable that a large avenue should be opened, which does not exist to-day, and where the respective collector will be fixed. Some portions of the western quarters, still little populated, have also been left pendent, but it is to be hoped, that these complements of such a beneficial work, may not be long in being executed.





Without having a plan before him, it will be difficult to give to the reader a clear idea of the distribution of these works. We will, nevertheless, attempt it, saying, that the adopted system in them, is the one technically called *transport-combination of water*, which consists of three principal elements: iron pipes for the distribution of water for washing; sewers to collect the residues from the houses and the pluvial water from the streets, and large collectors to receive these and to carry them to the commencement of the great canal of the drainage of the Valley.

Of these three parts or elements, the distributary pipes are composed of a main line which runs near the centre North-South of the city, and provided with valves at their commencement, four large branches part from that line towards the West and as many to the East, at a variable distance from four to six blocks of houses, in accordance with the not always regular design of the streets of the city. In this main line of pipes, of 1°08 in diameter, the water for washing is injected with a pressure of twelve kilogrammeters by a powerful pump placed at the South of the city, taking it from the old and primitive lagoon of Kochimilco by means of a derivative canal. The branch lines of the great main pipe are provided with valves at all the crossings of the streets North-South they meet on their way, which let out the water into the second element of the system, that is to say the sewers which receive the refuse from the houses and pluvial waters; these pipes made of glazed and burned clay, run in zigzag, and always with a declivity to the East, a variable space of one to four blocks of houses, flowing out eventually in the third element, i.e. in bricked collectors, which are placed parallelly with the distributary pipes, that is to say from West to East, at a nearly equal distance between two of those pipes. The city comes to be in this way divided in five zones: one central, two to the North, numbered with the uneven numbers 1 and 3, and two to the South, numbered with the even numbers 2 and 4. Every one of these zones has a «spine,» if we may be allowed to use this expression, which is the distributary pipe of the water, and a series of «ribs» on both sides, the sewers abutting in a collector. Finally, these zone-collectors shed the refuse they carry along in a large collector constructed from North to South in the Eastern boundary of the town and which, with a contrary gradient from North to South in the Northern part and from South to North in the Southern, unite all the *débris* from the city towards its centre at the mouth of the great drainage canal that carries them out of the Valley of Mexico.

As it is only natural, the irregular position of the city exacted the resolving of numerous problems so as not to leave any dead-point in the carrying along of the refuse, to impede the entrance of too heavy or noxious matters and to be able to examine the sewers and collectors at all their points, and even to allow making repairs without interrupting the general working of the system.

Fortunately, and thanks to the indefatigable constancy and foresight of the author of the project and director of the works, and of his collaborators, all these problems, and many others, the explanation of which is not here in its place, have been satisfactorily resolved in practice and the Capital has in its greater part been endowed with a system of sewerage which does honour to national engineering, the characteristic strokes of which are: simplicity and uniformity in the construction and the elements of which it is composed, unlimited capacity of widening when the city increases, and a great facility in its working, for only twenty men are needed to wash *the whole sewerage every day*, an advantage, which, as far as we know, no other town in the world enjoys. In conclusion, we may say, that in spite of the inequality of the ground of the city, gradients technically sufficient have been obtained in collectors and sewers, since in these the water runs at a minimum velocity of one meter per second and sometimes reaches more than the double.

In order to form an idea of the magnitude of the work, we will give here a few figures, though it may only be speaking summarily. 19.731 meters of double vaulted oval-formed brick-work collectors lined with cement have been constructed with a variable diameter from 1 to 2 and a half meters; 108.175 of sewers or drains of burned and glazed clay, from 60 to 40 centimeters in diameter, according to the length of each of them; 21.855 meters of iron pipes (3.066 of 1°08 in diameter, 15.785 of 0°76 and 3.000 of 0°15); and lastly 91.752 meters of gully-holes of private houses and for fluvial water, also made of earthen pipes





(as in Veracruz and other towns) beautiful buildings for custom-houses, dock-yards, post-offices, telegraphs and light-houses.

\* \* \*

We gave here in a very incomplete synthesis what we have been able to do in the matter on which we are engaged under the shelter of a peace of only twenty five years, which we Mexicans heartily bless and we resolutely long to preserve, not admitting the fear that it may not be organic but purely accidental, and that badly subdued ambitions and revolutionary and disturbing elements may again raise amongst us the heinous spectre of discordance and civil war.

Paul Macedo.

*Tlámpan, 12<sup>th</sup> of April 1903.*

of 15 centimeters. All this comes up to the large figure of 241 kilometers and a half of subterranean drains. As principal accessory works, the following have been made: 2,291 man-holes and for lamps with iron coverings; 4,416 gratings for the rain water, 9 large flood-gate valves, 207 smaller valves to receive the water, all with their corresponding brick-masonry, and finally, 198 injection wells.

The total cost of the work up to March 1903 without counting at all the replacing of the pavements, has been \$ 8,043,616'88, according to the accounts kept by the directive Board, which still acts. Of this sum, \$ 3,889,216'88 have been paid in cash and the rest of \$ 4,154,400'00 in Obligations of the City of Mexico.

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SANITARY IMPROVEMENTS OF VERACRUZ AND TAMPICO.—Without wishing to do so, this chapter has grown disorderly and there is hardly space left to us to say, that the States of Veracruz and Tamaulipas have contracted with two foreign companies, the one English and the other North-American, the carrying into effect of the sewerage and the laying of pipes for potable water in our principal ports on the Gulf coast, Veracruz and Tampico, which are rapidly pushed on and on which great hopes are entertained to exterminate the yellow fever or *black vomit*, which has always been the dreadful affliction of our coasts on the Atlantic.

These works are paid for in special Bonds; for the payment of the interest thereon and their redemption, the federal Treasury has ceded a part of the custom-house receipts of these ports: for this very reason it may be said, that it is the Federation that pays it.

\* \*

SOME OTHER PUBLIC WORKS.—Guadalajara has also made some important works of potable water conduits and sewerage, and it may be said to its credit, at its own expense by means of a gold loan made with the United States.

In the City of Mexico, the federal Government has in the last few years made some improvements, which would be entitled to more than the mere passing mention of it which we can make here.

A penitentiary has been constructed which experts consider as the most perfect model of prisons, the initiative of which is due to Emmanuel Romero Rubio when he was Home Secretary. Under the care of a committee presided over by the indefatigable licentiate Joseph Yves Limantour, the causeway of the Reforma and our historical Park of Chapultepec, which in its kind constitutes the most beautiful ornament of which the most noble and most loyal City of Mexico has been in the vice-regal times, have been notably enlarged and improved. In course of construction are the following buildings: a large edifice destined for a Post-Office, an Asylum for the poor, a general Hospital, a Palace for the Legislative Body and a grand Theatre, of which we are in need of, because the one we had was hastily pulled down, qualified by many as imprudent, to lengthen an avenue, constructed by the enterprising Guatematecan citizen Francis Arben in 1846, and which, if it did not have all the necessary qualities, was with all this a large and beautiful building.

Several millions from the cash reserve funds of the federal Treasury have been spent on the construction of primary schools, and plans for a greater supply of potable water, which is already insufficient and not entirely wholesome, are being carefully studied.

A transcendental reform, lately decreed, puts the administration of the urban service of the Capital and District in the hands of the Federal Government, which, through its increasing complexity the town-corporations could no longer manage efficaciously, allows to hope for some important progress to be made in the improvement of the city.

Lastly, the Federation has already erected (as in Tampico, Ciudad Juárez, Nogales) or is erecting



## PART SIXTH

## THE PUBLIC TREASURY

*In memory of the unpretentious statist, the licentiate Matilias Romero, who consecrated his entire life with indefatigable earnestness to the service of the country and who so much contributed to the economic progress of the Republic and to the creation of the national Treasury.*





With such antecedents, the economic state of that people is easy to be imagined. A long list of its expenses formed the items for the sustenance of the king, his favourites, his attendance, his palaces and his host of the sacerdotal class and their temples and the worshipping, that of the nobility and military class with their barracks and arsenals; and lastly, the sustenance of the public functionaries. It was only the fiscal tyranny on the multitude that could cover the budget.

Both Cortés in his letters and Bernal Díaz in his sincere and picturesque narrations have described the profuseness of richness unfolded by the *meshica* monarch in his palace, the costliness of its objects of art and the generosity of his gifts. Amongst others, it was especially Sahagun who enumerated the principal and inferior gods of the aztec mythology and described the festivities which were celebrated in their honour. The empire was sown with temples, places of idolatry and chapels (according to Orozco and Berra about forty thousand), where daily service was held, the principal part of which consisted in offerings. The liturgy of these acts required a great consumption of wood, maize, birds, rosin, paper and oil-cloth; the worshipping demanded a great number of priests, sacrificators, officiators and servants, an enormous number, which the historians estimate at one million of individuals exempt of taxes.

The military clan was not of any less importance and enjoyed the same privileges; they were housed in barracks and had arsenals and gymnasiums. The nobility and public functionaries completed the privileged portion that lived at the cost of the State.

The city, situated as it was on slippery mud, surrounded by lagoons, without any well cultivated lands, and densely populated, could certainly not proportion the necessary means of subsistence with the moderate fishing, and had, therefore, forcibly to get them from other districts. Two great objects are noticed in the conquests of the *meshica*: to gather taxes and to make prisoners for the sacrifices. The prisoner of war was pleasing to the gods; the *meshica* was condemned to perpetual campaign: without it, he would not have had any propitiatory victims and this by itself explains the rivalry without quarter against Tlaxcalla, a republic, so to say, which was the nursery out of which the captives were taken during the periodical disputes, lodged, kept and fed by public expense, to die sooner or later on the stone of sacrifices of the *teocalli*.

The *meshica* did not fight in order to annihilate the enemy, nor to destroy the place conquered; when this was taken, a fiscal act in the shape of a tribute, without meddling in the methods of the established government, was performed, limiting the power of authority, in case of resistance, to the appointment of a deputy and to intervene in the public revenues by means of a financial functionary. Thus it remains explained, how a poor metropolis could concentrate in its markets the most varied and abundant products of every latitude and climate.

In financial matters, the king enacted laws with the assistance of four counsels, one (*cihuacoatl*) performed the functions of Finance Minister, to whom a general Treasurer was subordinate (*hueicatlizqui*), chief of the provincial deputies and of the tax-collectors.

The *meshica* had no money in the proper sense of the word; wealth was represented by a multitude of symbols which constituted the collective tax, rarely a personal one, called principal *tribute*, and which was almost the only source of revenue.

The tribute consisted in so much of the produce of the lands, paid by the great majority of agriculturalists; the merchant paid it in a certain amount of goods; and those devoted to industrial pursuits, a certain quantity of their manufacture. As to those that had neither a trade, nor industry, nor lands, nor property, had to lend their personal services in cultivating the lands of the temple, of the general, of the proprietor, or supplying the place of a beast of burden; it was thus how those deprived of any worldly inheritance paid the tribute with the muscular strength.

The inhabitants of a place being divided in groups of neighbouring families, a governor was appointed to each of them who collected the tribute, put it in «treasuries» equal to warehouses or docks, under the guard of a steward commissioned for its distribution; the tax-payer had to pay the expenses of loading, unloading, warehousing and transport, so that the collecting expenses were almost of no account.

## CHAPTER FIRST

FROM THE PRIMITIVE TIMES TO THE END OF THE VICE-REGAL GOVERNMENT

**P**REHISPANIC EPOCH.—Theocracy and militarism were the dominant characters of the *meshica* race. From its earliest existence, peregrinating and always on the defensive, it made itself familiar in the management of arms in order to get to the islet, which the oracles marked out as the spot of settlement. The love for war was so rooted in the traditions, laws and customs of that family, a wandering state of life, that its very religion,—the only and supreme law,—was at the bottom nothing else but a homage paid by strife and force.

The priest preached the conquering spirit of ferocity and he knew how to practice it on the battle field; the king was chosen after having been subject to a test of showing his aptitudes as a consummate chieftain; the young of the higher classes, either shut up in seminaries or confided to the care of experienced veterans, are familiarized at an early age in the religious practice and military exercises, while the commoner cultivated, among other things, «the land of the ravens,» the produce of which was exclusively destined to war expenses; and as the war was almost periodical, just like a ritual ceremony, military service, as a consequence, was obligatory. The higher classes assumed the command; the populace carried the arms and lent their lives; the women looked after the subsistence of the troops; the first prayer of the child was an invocation to the war like symbol, to the craving god fed with the «eagle's fruit,» the still palpitating human hearts, offered at the sacrifices, and called so because it resembled the bloody fruit of the (cochineal fig-tree) nopal.

That form of existence imposed discipline and obedience as a maxim of conduct, sanctioned by superstition which passed from the fathers to the sons; the burden of despotism became a normal condition of life for the classes without jurisdiction.

The king, priest, general and the nobleman, whose ancestry came from the palestra, were regarded in the eyes of the multitude as deities; the cruelty of the human sacrifice as a familiar practice, necessary and just; and pushed on by this dreadful fanaticism, the handful of naked, fatalistic and hungry emigrants could in time convert an unhealthy islet, surrounded by mire and dangers, into a habitable residence, a centre of strong interchanges of thoughts and sentiments, a flourishing metropolis, in an armed power, which in the dramatic and last reign of Motecuhzoma II reached the supremacy in the triple alliance of Mexico, Texcoco and Tlacopan.

The conquerors, the chroniclers, the historians, they all agree, after exaggerating the ferocity of that race, that it did not lack of a relatively advanced civilization: in its veins ran the wisdom of the tolteca as an inheritance. The exercise in the management of arms had not impeded the *meshica* to be astronomer, neither to practice medicine, cultivate music and dancing, it had notions of morality, raised to the rank of legal precepts; it punished murder, adultery, theft, bribery, drunkenness, false practice in medicines, consent, violation of contracts; it recognized the authority of the judges who were inviolable; it gave ample right to defend; it praised reverential formulas; it possessed a book on diplomatic ceremonies; it enhanced the love for the poor and the respect for the old people; it watched over the modesty of young girls, and though slavery was practiced, the slave had greater hope of manumission on barbarous ground than in the old world of despots, because the slave was so for a life time but his children were free-born. In the bosom of his family, his principles might be palliated in the Gospel.

What a strange contrast! The cruelty of its penal legislation, the violence of the ordinance, the ferocity of the rites, all served as a rough and not sanctioned foundation to this progress: it might be said, that in that generous family, as in other theocracies, it was the god who conquered, and the conflict between the noble aspiration and the errors, called of divine origin, renewed itself, keeping it back in its evolution.

VOLUME SECOND

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History of public Finance

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**Guaymas. — View of the eastern part of the bay**



The great wealth was formed by the lands: wages, inheritance, perquisites, reward, signified amongst the *meshica* a piece of land: life property, hereditary and saleable in certain cases, but never to a plebeian.

Property was much divided; the towns and villages were divided into districts (*calpullis*), each one with its chief, judges, schools and priests; the peasant cultivated strange land besides that of his own. The conquered province ceded a part of its territory, destined for cultivation, which the king apportioned between the noblemen, military and sacerdotal class; these endowments were not transferable, their yearly products could not be diverted from the object to which they were from the first destined, their owners were only usufructuaries; they could be let out but not sold; and in treating of the lands assigned to the inhabitants of a village, the favour conferred became extinct with the change of residence of the grantee or the absence of cultivation during two years, in either of the cases they would be returned to the community or divided amongst the poor families.

In consequence of which, the lower class tilled the land, sowed, cultivated and gathered the crop without any wages or against a small compensation in produce: the work of a whole existence enriched the privileged classes; the peasant gave the third part of his earnings to the fisc; he perished as a victim of the unjust division of the impost and compensated with his energies the exemptions which the elected ones enjoyed.

The fiscal compulsion was a tyranny: the sick man squared his account on getting well; the insolvent was either subject to compensatory work or was sold as a slave; through the impetuosity of the law, life was a commanding function; the person an automatic quotable property. As we have already said, the noblemen, priests and their attendants, the warriors, the minors, the orphans unable to work, the widows, the cripples, beggars, singers and musicians were exempt from the tribute, but might consider themselves as subordinates of the *teocallis*.

Apart from the described civil impost, there existed an other one: the religious impost, comparable to the tithe of the christians. With regard to this matter, the Church and the State were to a certain point (and as we should say to-day) independent at the expense of the tax-payer, who was obliged to pay double contributions to the crown and the temple and to cultivate the lands belonging to the one and the other.

The historians hardly mention, as a source of wealth of little importance: the ransom paid by every young man to the seminary on getting married; the share in effects given by the merchant in unloading his goods, as a duty of introduction; the offering which the sellers deposited at a special place in the public market places.

Fanatism and the habit implanted the general practice of offering to the gods the first-fruits and to accompany the prayers with offerings; the *meshica*, presented his offering before being addressed to, solicited or simply invited, in all his acts of his public life; the present was a diplomatic requisite: the present of gold made to Cortés by Motecuhzoma's ambassadors decided the fate of the country of Anahuac.

The revenues of the *meshicas* was, therefore, reduced to a very few items, almost to a solitary impost, the tribute; and as the industrial product was one of its forms, the people, with the practice they had, simplified perhaps their work but without perfecting it. As it is with the chinese, the son followed in the trade of his father, and the vase, mosaic and the cloth seem to be copied from an original pattern without showing in it the inspiration of the innovating artist but more the patience of the submissive and superfluously exact artisan. The legislator made the artisans of the same trade of a town live in one district, in one street, facilitating in this way the prompt and efficacious collecting of the tributes.

The matriculation of the tributes appear in the Mendocino Manuscript; in that hieroglyphical document, the populated places, their productions and the share corresponding to the crown were represented; the superintendents kept account and a memorial relation of the changes of that which was in their keeping; the king or his counsellors could at any moment know the exact amount of the disposable resources, its residue, its over-plus or its difference. Those people surpassed their conquerors in the knowledge of a detailed fiscal account-keeping and of inceptive statistics; in looking over the ordinances of the empire,





where the lands of the *calpulli* are represented in light yellow, those of the noblemen in red and those of the king in purple, where the most insignificant symbolic datum in order to appraise landed property is not omitted, makes one to affirm, that the territory of the old Anahuac was land-taxed.

The historians mention three great classes that directed public affairs: the sacerdotal, military and nobility; that of the merchants may be added. If the priest with his granaries and his hospitals mitigated to some extent the theocratic ferocity; if the soldier with his fanatic courage maintained the power of the empire; if the nobility, risen from the battle-field, served the high offices of the court of justice and royal council, the character represented by the merchants is worthy of imitation for the modern, romantic and respectable criticism.

The family, the merchants' guild, resembled a religious order on account of its cohesion, its rites, its ceremonials and its customs; it was to them that the empire owed its power beyond the mountains, in remote and mysterious countries, because the merchant was an omniscient being at that time. As a geographer he traced the plan of the roads over which he went; as an ambassador he represented the king; in the name of an august person and with all the requisites of diplomatic ceremony, he took preparatory steps for attaining friendly political relations; in case of resistance and prior to customary admonitions, he became hostile, his procedure was pressing, he turned to be a soldier; as a polyglot and sociologist he learned the language of the people on his passage, he mixed with its inhabitants, adopted their garbs, studied their resources, habits, customs and put down their remarks in writing, delivering them eventually in the hands of the king in the way of information. Still more: the merchant was a fiscal agent; at the stopping-places on his long journeys he collected the tributes, real exploring expeditions and pacific or armed conquests, but inevitable.

Through the merchant, the Mexican islet, the natural resources of which were so uncertain to reap any harvest, that in the time of Atzacapotzalco's tyranny, the so called *chinampas* had to be devised; we repeat, that through the merchant, that islet was converted in an emporium of arts and the first market of Anahuac. There were the plumages and the cocoa from Xoconoxco, the gold and cochineal of the zapotecs, the emeralds and amber from the Gulf coasts, the honey, ochre and copper (*olinallan*), the paper and sumptuous vessels (*tlahuicas*), matings from Cuauhtitlan, grains and wood from the northern regions, and the *ulli*, the tobacco, the aromatic gums from the tropics.

It is, therefore, not inexplicable why the conqueror should have been dazzled at the sight of so varying richness and bold in covetousness; nor that the conscientious chroniclers, should render justice to a barbarous people in their rites, but equaled in cruelty by the invader; a people that had to show great energy to get at the flourishing state of public revenues, without ox nor plough, with an enormous consuming population but not productive, sunken in a pool of water, at the bottom of a valley surrounded by precipitous mountains, without any means of speedy communications, in constant war, and a holy war, and which, in spite of all, could carry out the fiscal engagement and to receive the tributes four times a year of eighteen months each.

The preceding lines have not been written for the mere sake of historical curiosity; by the rapid sketch made, it is presumed that the conquered people had to a certain extent acquired the custom of the imposts. The Spaniards destroyed idols and put christian saints in their places, they exterminated the sacerdotal class by fire and sword, substituted by the missionary, who was an admirable apostle, redeemer, master and artist in the first epoch, but afterwards execrable when converted into a priest. The revenue of the *teocalli* was called a tithe; the personal tax, tax on convents, quarries, mines; the old *tlatoani* of the peasants was called an *agent*; the condition of the slaves became worse and the pictures



Presents made to Cortes  
(a painting on linen from Tlaxcalla)





Not on all their journeys did the Spanish hosts gather treasures; but as some of the people, enemies of Motecuhzoma, allied themselves with the Spaniards, thanks to that alliance the Indian provided the conqueror with guides, *tamemes*, or men that carried the war material and equipage on their backs; provisions in sufficient quantity, young girls, cocoa grinders, all that helped to reduce the expenses of the campaign, less the repairing of the arms, the treatment of the wounded and the consumption of powder and shots.

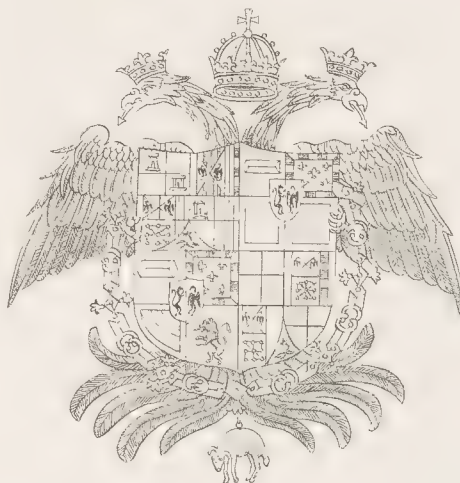
The disposition and the sparing length of this work does not allow us to follow the historian in the episodic march of the adventurers, neither to indicate how the public treasury of the conqueror went on increasing at the expense of so many sagacities, feats and unqualified heroic exploits of highway robbery.

When at last the Spaniards settled down in the aztec metropolis, they were received by Motecuhzoma more like guests than invaders, and had as quarters the unprofaned palace of Axayacatl; gold, the only object of the enterprise, was not unpleasant to them; the monarch, wishing to buy with it the retreat of the invaders, only excited their covetousness still more; he overwhelmed them with presents, in which the unlucky yellow metal figured preferentially; with gold he rewarded a visit; with gold he punished the coarse misdoings of the soldiery; with gold, purposely lost in games of hazard, he fomented the passion of his opponents, losing a hundred against one in bad and deceitful play (1).

The lavishness of gold did not impoverish the mine. History says, that one day, as the carpenter Alphonse Yañez, in looking for a proper site to erect an altar, found the marks of a stopped up door in the wall: with Cortés at the head, they opened a breach and penetrated in it, finding a place full of gold, precious stones,

warlike stores, sacred vases and other objects of idolatry worship: it was Axayacatl's treasure, the proceeds of the fiscal tyranny of the Mexicans, collected at the expense of long and vexatious oppressions. Perhaps the finding of which decided the character of the conquest; the ambition of that handful of rough men being tempted, the fate of the Mexican empire was not problematic.

«These christians are daring, and in going about this house, have come across a certain quantity of gold, which they have taken; do not worry yourself about it.» In these words, according to Bernal Diaz, communicated Hernan Cortés the finding of the treasure to Motecuhzoma, already a prisoner in the hands of the Spaniards, and according to the same authority, the captive answered: «That belongs to the gods of this people; leave the feathers and things which are not of gold and take the gold; I shall give you all I have.» Motecuhzoma kept his word; willingly or by force he acknowledged himself a vassal of the king and queen of Spain, the fact having been certified by the notary Peter Fernandez, stipulating, that not only he but the other gentlemen as well, who were his subordinates, should pay «the tribute,» because, said Cortés,» the king of Castile wanted gold for certain works he ordered to have made; and that for



Coat of arms of Spain which Cortés brought with him

(1) Bernal Diaz del Castillo speaks extensively on the matter in the *Verdadera historia de los sucesos de la conquista de la Nueva España*, chapter XCVII. (True history of the events of the conquest of New-Spain.)

as idolatry papers and the prohibited old manustripts of interpretation were burned. But amongst others, one was saved: the matriculation of the tributes, which were converted in a branch of the Exchequer of New-Spain; the inventory of the booty, the statistic fiscal document, the first that headed the financial history of New-Spain.

THE PERIOD OF THE CONQUEST AND THE PRE-VICE-REGAL.—By the bull of Alexandre VI, dated at St. Peter, Rome 4<sup>th</sup> of May 1493, the dominion of land and islands discovered in the new orb, marked out by a meridium drawn a hundred leagues to the West of the Azores and Cape Verde, were granted to the Catholic King and Queen, Ferdinand and Elisabeth. That concession imposed upon the conquerors the duty to convert the Indians and to teach them the catholic faith.

An eminent historiographer says (1): «The soldier had to feign the conduct of the missionary; a mixture which resulted to be irregular, as it is impossible to harmonize robbery and butchery with the holy doctrines of the gospel. Hence certain contemptible monstrosities. To preach a holy God by word and to give the example of bad passions. To burn and destroy the teocalli, to demolish and break the idols to pieces, but to take carefully charge of the gold consecrated to that disgusting worship.»

As soon as the gold formed a part of the productions of the New-World, the conquest had ominously to prevail, more as a pecuniary enterprise than an evangelistic one; and we have, therefore, to treat that heterogeneous adventure, without precedent and without counterpart, from the first point of view.

The Catholic King and Queen, Ferdinand and Elisabeth, ordered by Royal letters patent dated Medina del Campo 5<sup>th</sup> of February 1504 (from the context of which was framed the law n.<sup>o</sup> 1, tit. 10, 8<sup>th</sup> book of the abridgment of the statutes), that all the Indian vassals, inhabitants and citizens should pay the *quinto*, i.e. the fifth part of the net proceeds of the gold, silver, tin, lead, quicksilver, iron or of any other metal they might find. The *quinto* would have to be put in the hands of the «clerks of the Exchequer» in every province. By the referred to Royal letters patent, it can be seen, that the king of Spain had a presentiment of the mineral richness of the Indies, that the Exchequer had representatives in the conqueror's ranks, that the fiscal agents worked jointly with the missionary and the soldier, imposing on the people of the new orb, at the same time as obedience and christian religion, an onerous tax, falling preferentially on the precious metals, at that time a symbol, or better said, the only form of wealth.

In the instructions, which Diego de Velazquez, governor of Cuba, gave to Hernan Cortés, in putting him in front of an exploring expedition and not one of conquest, he authorized him to barter «with the Indians gold, precious stones, pearls, etc.» the bartered objects to be kept in a «safe with two or three locks,» appointing responsible persons for its safety as «overseer» and «treasurer» respectively, who had to keep the keys upon themselves and answer for the deposit, made before a public notary (2).

Those adventurous people, thrown upon a dangerous enterprise without any pay whatever, screened, therefore, all legal appearances, and having respect for the king, looked after his public treasury as a sacred thing. The origin of the Exchequer, as regards the American treasures, coincides with the incursions of the conquerors; it is represented by a safe of two or three locks; a safe, subject to the same changes as the ship, the equipage of the soldiers and the saddle-bag filled with religious medals and gewgaws of the catechiser.

At the foundation of the «Rich Town of the True Cross» (Veracruz), by Hernan Cortés, amongst other appointments, he made those of Treasurer and Accountant, appointing Gonzalo Mexia and Alonso de Ávila as such: the first royal functionaries in the land of the aztecs, direct representatives of the Spanish fisc during the conquest. They at once took charge of the wealth formed by the presents which various embassies made to Cortés, consisting of precious metals in bullion, dust and ware, gems, cloth, inlaid work made of feathers and other products of the sumptuous arts of the Indians; besides this, it was formed of the so called war booty and later on the slaves or the proceeds from their sale.

(1) Orozco y Berra: *Historia antigua de la conquista de México*.

(2) Orozco y Berra, IV, III. Notes on pages 74 and 78.

these figures are far from being exact, if one takes the covetousness of the officers and the concealments of the soldiers in consideration. Mr. Velazquez de Leon, for instance, had large chains, dishes, plates, etc., worked; treasurer Gonzalo Mexia accused him for not having paid the royal «fifth» of the metals; they disputed, drew swords and would have killed each other, if Cortés had not intervened, who imprisoned Velazquez de Leon. When Motecuhzoma heard of it, he ransomed the liberty of the prisoner with gold.

That gold, obtained by so distinct means had to suffer some sad changes. The butchery at the principal temple, carried out by Peter de Alvarado, was the decisive cause of the revolt of the *meshica*; the insurrection assumed such a serious character, that Cortés, fearing an irremediable defeat, had recourse to a secret retreat.

On the 30<sup>th</sup> of June 1520, the day fixed for the retreat, the «Captain from Extremadura» had the accumulated treasure removed, requested Gonzalo Mexia and Alphonse de Ávila, the two royal commissioners, to put that belonging to the king to a place of safety; he also requested the mayors and aldermen of the «Villa Rica» to take charge of about seven hundred thousand pesos, the parts belonging to the absent soldiers, about seventy of them; but as they refused to do so, he asked Peter Hernandez, his secretary, to give proof, that that sum could not be saved, leaving it, therefore, in the hands of the troops, being preferable that these should profit by it and not the enemy; he destined seven of the lame and wounded horses for the use of carrying the «royal fifth,» and loading a black mare with the bars of gold belonging to him, gave it in the care of the servant Torrecillas. The soldiery threw itself plundering on that which was left: the more prudent were satisfied with precious stones and small ingots of gold, the ambitious one filled his knapsack in such a manner, and to such an extent did it increase the weight, already heavy with the arms, that in fighting later on and in flying, fatigue overtook them; the gold harassed them in their flight and in defending themselves, the gold made them lose their lives. Gomara says: «the gold killed them and made them die rich.» Father Acosta attributed to greediness the reason why some of the Spaniards could not escape: some for guarding the gold they had and others for picking it up, were made prisoners and cruelly sacrificed before the idols. On that *sorrowful Night*, called *Noche triste*, the greater part of the treasure was lost.



A merchant

Before Cortés undertook the siege of Mexico, he gathered new and copious riches, which, however, did not compensate that which was lost. He omitted, therefore, nothing to enrich himself; he branded the slaves in Tepeaca with the terrible «G,» which means «Guerra» (war), and exacted from their owners the duties which belonged to the fisc. The conduct of the conquerors in this particular matter is strange: in paying the king, they gave the look of lawfulness to cruelties which will always be condemned.

About that time, and in a ship coming from Spain, there arrived in New-Spain Julius Alderete the first treasurer appointed direct by the king, and friar Melgarejo de Urrea, who sold to the troops the «Bulls» called *composition*; by means of the «Bulls,» the peaceful enjoyment of the riches, the legitimate owner of which was unknown, was secured, and although those obtained by plunder were not included, the conquerors hastened to *put themselves under cover*.

The conquest of Mexico being an accomplished fact, one of the first cares of Cortés was to inquire about the whereabouts of the gold which he left in the metropolis and brought Cuauhtemoc severely to account about it; but he could not obtain from the conquered any thing else but a small quantity of metal contained in a canoe. He thought it very scanty, and in making further inquiries, the *tenosha* and *tlaltelolca* accused each other of having thrown it in the lagoons.

The soldiers expected a rich reward; one might say, that in seeing them domineered by restlessness, that their dangerous hostile incursions, their retreat, the cruel siege of the city, the metropolis destroyed, their object was neither the vassalage of a powerful and expanded nation, nor the evangelization of a barbarous people, heroic to the last, but the conquest of the sheep's skin with the wool on, too poor for so many anxieties. The divers examined the bottom of the lagoons; the tombs of the *caciques* were violated



this very reason, he should appoint persons to go with the castilians and see all the gentlemen reduced to submission, to ask them what they would contribute towards it (1).»

Two by two and five by five, *tenosha* and castilians divided in parties all over the empire in the character of tax-collectors, and while they collected gold, jewellery and feathers, Motecuhzoma, whose liberality astonished the Spaniards and who successively thanked him for it «in taking off their head-gears,» destinated, jewellery, gold, fine precious stones and «other things, the number of which is infinite (2)» as an extraordinary present for Charles the fifth.

The liberality of the monarch and the greediness of the conqueror were inextinguishable; they seemed to compete with each other. Motecuhzoma gave his personal jewellery; Peter de Alvarado ransacked the granaries where the cocoa was kept, which served as money; Bernard Vazquez de Tapia collected the gold of Texcoco, where the death of Nezahualquentzi and the flight of Cacamatzin took place, who, in being made prisoner and at the request of Peter de Alvarado himself, handed over about ten thousand castilians (an ancient Spanish coin; the fiftieth part of a mark of gold) and for not having any more to give, he was branded on the belly.

The quantity acquired was sufficient to give the troops the exact part belonging to them. When all the treasure was collected, the goldsmiths of Atzacotzalco melted the gold-dust, forming broad bars; in order to mark them and to take away the royal fifth, they made an iron stamp with the royal arms of the size of a testoon, and as weights were wanting, they also made some of iron of one and of half a quarter (25 pounds), of two, one and half a pound and of four ounces, by calculation, for want of a determinate object of comparison.

As the troops urged a speedy division of the spoil, it took place; the «fifth» belonging to the king was put aside; an other «fifth» for Cortés, for in laying the foundation of the town of «Villa Rica,» the troops granted him that prerogative which put him on an equal footing with the monarchs; he took for himself the cost of provisioning the fleet, the value of the ships sunk, the expenses of the attorneys sent to Castile to give an account to the king of the foundation of Veracruz, the aliquot part of the soldiers that garrisoned the royal camp, the value of a dead horse and mule; double part to friar Bartholomew de Olmedo, to presbyter John Diaz, to the cavallery captains, to the musketeers and archers, in fact every foot-soldier armed with a shield received a hundred pesos in gold.

The soldiery was not satisfied with this; some of them refused to take their part. Cortés consoled them all with promises, which sufficed, so much more, as the gold was not of an urgent necessity to them, as they had lodgings, provisions, servants, privileges and women at the expense of the aztec monarch so that the precious metals were only used to square personal debts, amongst others the fees to the quacks, which were rather high, and gambling debts, for card-playing was converted into passion, thanks to the idleness, when Peter Valenciano, the first gambler in this part of the world, made, according to the trustworthy Bernal Diaz, as fine and well painted packs of cards from the parchment of the drums as any of Castile.

From the anterior it is to be inferred, that the «tribute» of Motecuhzoma and the «royal fifth» taken from the booty, were the first branches of the Exchequer of New-Spain. Let us now see the amount of the «fifth.»

In setting aside the jewellery, precious stones, cloth and plumages, a special gift given to the king, taxed altogether at about a hundred thousand ducats, according to Cortés, the «fifth» amounted to «thirty two thousand four hundred pesos in gold, referring to the gold, and one hundred and odd marks as far as the silver is concerned.»

The value of the treasure was estimated by Bernal Diaz and Robertson at \$ 600.000, by Prescott at \$ 6.300.000 and by Joseph Ferdinand Ramirez at \$ 3.469.000 of our money. It may be supposed, that

(1) *Cortés de Relación* (Letters of Narration).

(2) *Ibid.*

general. That answer, paternal for the Indians and creditable for the Crown, included various dispositions referring to our object. It abolished the distributions, but it granted land to the conquerors with its *multas* for ten years; it authorized the imposition of a moderate «tribute» on the Indians and the collection of «tithes» for the support of the catholic worshiping; it freed the kingdom of Mexico for eight years from the «excises» and for ten from the «fifth» of the gold and silver, on the understanding, that the «tithes» should be paid the first two years, increasing it successively every two years till it complies with the universal law; it finished in asking for the gold and silver that could be sent to him, as the exchequer was empty.

The above mentioned document is important, for it established the imposts in New-Spain and helped to correct some of the abuses of the conquerors. But the generosity of the king was not seconded; the abolition of the distributions was equal to the liberty of the Indian, which was not to the liking of the



A rich cloak made of feathers and gold ornaments

Spaniards; they obliged Cortés to overrule that point and to explain to the monarch the inconveniences of such a just measure.

The treasurer Alphonse de Estrada, the accountant Rodrigo de Albornoz, the factor Gonzalo de Salazar and the inspector Peralmindez Chirinos, all state officers, arrived in Mexico in 1524; they instituted the Exchequer and made themselves notorious, not for having inaugurated the first Treasury department, nor for having brought the first instructions to regulate the imposts, but for their ill-will shown against the conqueror, to whom, influenced by the legends propagated by the fabulous wealth of Mexico, they did not wish to pay the sixty thousand ducats which he said to have spent in the conquest out of his own purse. In taking him to account with regard to his enterprises and of that which he made by them, they accused him of hiding funds and called him a thief and rebel; these charges were communicated explicitly to the peninsula.

From then, and during the expedition of Cortés to the Hibueras principally, the public matter assumed a scandalous aspect in the colony: the abuse, theft and bribery was followed by anarchy and disorder, familiar to those who have already read the pages dedicated in this book to our political evolution.

These declarations, which became notorious, promoted in Spain the appointment of Lewis Ponce de Leon as judge-advocate of Hernan Cortés; besides this commission, he had others conferred upon him,

to despoil the corpses of their ornaments and jewellery, which, according to the ritual, had to be buried with them; the soldiers not being satisfied, they accused Cortés and the treasurer Alderete of hiding the booty; they threatened the one and the other with mutiny, and that epic and mad covetousness was the cause of the horrible torture of Cuauhtemoc and other noblemen, a useless torture. The fisc and the conqueror stirred up the fire where the hero, already glorious, exalted himself still more by the fortitude in the martyrdom.

A second division was made with what was collected. One hundred and thirty thousand Castilians were distributed amongst the troops; about twenty six thousand of which the king was entitled to, being the «fifth» besides the fifth of the slaves. In order to increase the distributable amount, three hundred-weight of copper were mixed with the melted gold. This spurious gold, this deception, gave rise to the depreciated *gold of tepuzque*, with which, later on, and so as to redeem it, the «fines forfeited to the royal treasury» and the duties on exports had to be paid.

The quantity was very insignificant, much less than the one lost in the *sorrowful night*; the soldiers, who had to receive less than one hundred pesos, refused to take their part, considering it to be better in the hands of the invalids.

Truly, those men deserved a little more for the hardships they suffered. The enterprise had not been paid by the Crown; the soldiers had no fixed pay, they fought at hazard; the fruit of the victory was hardly enough to attend to their most pressing wants, according to impartial historians. What were a hundred pesos in gold, or less, for men having to treat with the then money-lenders, when a cross-bow was worth fifty, a firelock a hundred and a thousand a horse?

When the division took place, the head surgeon Juan and the doctor Murcia, also surgeon and barber, who had practiced their professions on credit, taxed their fees very high. The want of means of the one came to such a pitch and the exigencies of the others to such an extreme, that Cortés had to appoint a man called Santa Clara and a *fellow* from Llerena as arbitrators; after giving sentence, a term of two years was granted to settle the accounts, some of which were incontestable and equitable.

There was no gold; the honesty of the conqueror was doubted; the lampoon, the anonymous writing, both offensive, appeared on the walls, and so as to silence the general murmuring, the equivalent of the division was granted to some and to others the exploration of the territory.

An aztec document served to mark out the course of the future enterprises; Motecuhzoma's «matriculation of tributes» was a kind of hieroglyphic inventory, the catalogue of property, the plan on which the tributary places were marked, the quality, quantity and periodicity of the tributes. The greater part of the conquerors went to places where they supposed to exist auriferous wealth.

The native allies received the war booty taken from their own clan in recompense of their services, and as to the conquered, some were branded as slaves and others, under the authority of the superintendents, had to destroy their last temples and to rebuild the ruined metropolis. The ground-plots were adjudged to whomsoever wished to become a citizen of the town, the heart of which was destined for the Spaniards and the suburbs to the natives; two thousand two hundred Spaniards occupied the centre and ten thousand native houses the districts.

The authority of Cortés was up to then not authentic, it required the approbation of the king, and in virtue of which, so that it might be confirmed, he wrote to Charles the fifth, giving him an account, in the celebrated *Letters of Narration*, of that which had happened up to that time; besides, he asked favours for himself and his friends: that the name of «New-Spain» may be retained for the conquered land, that the appointments made may be approved, that bishops and priests, *but no counsellors*, labourers, plants, seeds and cattle might be sent out. The army signed the letter as well, and the documents, besides a present of 88,000 Castilians in bars of gold and the so called «wardrobe of Motecuhzoma» were sent by the attorneys Alphonse Dávila and Anthony de Quinones. The design was unfortunate: the king's gold fell in the hands of the corsair John Florin.

The monarch answered the conqueror in 1527, appointing him governor of the kingdom and captain



up to date are in existence. Our emancipation, for which we fought from 1810 and only obtained it in 1821, was politically a fact; morally only a prologue; in the full swing of a Republic, we preserve in our laws and in our doctrines up to a short time ago, and it may be, that even to-day we have not yet abolished precepts of an old, anachronical, vice-regal disposition.

The Spanish error persisted in financial politics, or better said, the error of the times, because public finances do not extemporize themselves, they are subject to ineludible laws, it is the definite mathematic formula of progress or of national decadency.

The phenomenons of our revenues have their origin in the colonial past. Nature does not go by leaps and bounds, nor does the chain of economical facts present continuous solutions.

Government shops, excises, prohibitions, tithes, tributes, monopolies, estates belonging to the clergy, in fact all that was an obstacle to the social and fiscal development, which first of all provoked a state of chronic bankruptcy and afterwards internal and external wars, was nothing else but a reverberation of a deeply rooted system, which, for its extirpation, did not lack of generous patriots, but of men of science and clear-sighted economists.

We shall not attempt to detail the vice-regal conduct from its origin; for our object it will do to synthetize the state of the country in the last years of the Spanish government, at the time when the influence of the house of Bourbon and the colony realized indisputable progress against all the secular prejudices, amongst others, to see itself free from the mercantile embarrassments to which it was subject during the reign of the house of Austria. With the first foreign ship, the ideas of liberty came in the country.

It was at that time, that the Exchequer commenced deserving its name in the modern acception of the vocabulary; its origin was investigated, its importance was traced by conjectures, its collection and distribution was reduced to methods, the causes of its increase and decrease were studied; it is true that it was channelled in an incipient system, if one considers the actual criterion, but far advanced at that time of universal ignorance, in which the first lights of economic science were dawning.

The abridgment of the statutes of the Indies, the Royal letters patents which were its essence, the instructions which the going-out vice-roy left to his successor, some work known to the book-worms, a printed matter referring to it in some way, which was not always trustworthy, are the only resources on which the statist can go by for the study which will briefly occupy us. The report of the marquis of Sonora, the private instruction of the eminent viceroy Revilla-Gigedo, the second by that name, and the *Political essays of New-Spain* of the genial baron Alexander de Humboldt, are the documents, which in our conception have to be consulted in order to appreciate the most approximate truth on our country. The *Political essays* especially, constitute a transcendental work; more than two centuries having past,

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Tributes (from the old Mendocino manuscript)



which we shall note as they belong to the point we are treating. He was urgently recommended to inquire into the working of the mines and their profits; to stop gambling; to establish a Mint, if necessary, and to this end, the royal dies with the *Plus ultra* were intrusted to him. The commissioner died before he could meet Hernan Cortés.

It is easy to presume the state of anarchy reigning at an epoch, when the answer to the memorials and proposals brought before the king took more than a year to arrive, and when the Royal letters did arrive, «they were obeyed without carrying them out;» for this reason we see irregularities to continue, the reprobation of which is distinctly stated in the collection of royal edicts.

In 1527, it was ordered by the king, that the slaves should not be branded; that the «negro» from Africa, working in the mines, could redeem himself for twenty marks in gold; that the gold of Pánuco should not be sold in ware, that there should not be any goldsmiths in Mexico; that the state officers should annually present an account of the money received and paid by the Exchequer. He confirmed the

possession of various properties belonging to the Mercenaries. Mining commenced to be the principal item on which the crown was preoccupied, the clergy already acquired landed property; these properties very soon preoccupied the monarchs; as time goes on, they will be the great problem of the economists and the eternal seed of discord, of national backwardness and of bloody struggles.

When the conqueror was called to Spain, he left the Mexican shores; he embarked one thousand five hundred marks of silverware, two hundred thousand of gold and ten thousand of base metal, jewellery and perls. That was the wealth he carried from the conquered land, but all kind of disappointments in his heart and perhaps those of repentance; he came safely out of many a battle with the natives, but the Spanish counsellors wounded him mortally. At



Tributes of Tenoshtitlan

the time of his power, he did not in vain ask the king to prohibit them to come to New-Spain.

Something was done in fiscal matters by the Royal Courts of Justice of which Nuño de Guzman was president; he brought the state officers to law, he decreed various tariffs, he ordered that a census of the Indians should be taken, he procured to moderate gambling, tolerating, however, the betting on cards up to ten pesos in twenty four hours, and he imposed the «custom duties» of 7 1/2 per 100 on goods and necessities of life.

The second Law Court, presided by the bishop Fuenleal, does not deserve to be mentioned, although the regulation of the tribute of the Indians, during his office, was fixed at two columnar reals per annum or the fourth part of an ounce of silver in goods of the country. By a decree of Ocaña, about the year 1531, a prorogation to pay the tithe instead of the fifth was besides granted to the miners.

In the meantime, Anthony de Mendoza made preparations to set up the vice-regal rule in New-Spain, the first one deserving the name of government, and to define and regulate a confused state of things.

THE VICE-REGAL PERIOD.—Nearly three hundred years did the Spanish dominion in New-Spain last. All historians agree, that all this long time was monotonous in political changes of great moment, and that the colonial conduct was quietly and without hinderance carried out in the first of the Spanish possessions in the New-World.

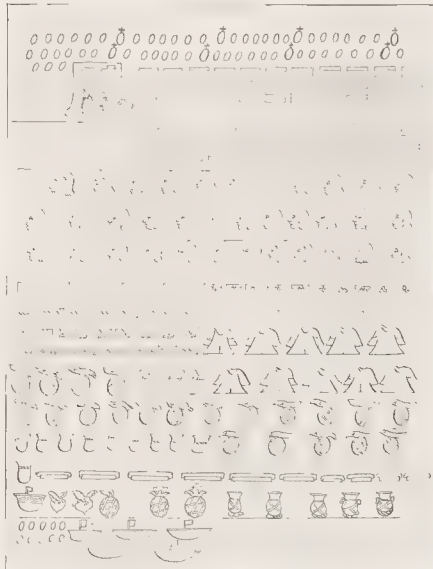
To our mind, the history of that period is not written in a complete, impartial and detailed manner; however monotonous it is taken to be, it did not lack of interesting events, in which the sociologist, the politician and the economist will find the deepest root of many institutions and of many errors which

formerly could not be put aside. In the colony, the viceroy in his person resumed all the royal attributes; he was the first person in every department of administration; under his guardianship was the army and the treasury, although assisted by councils more or less efficacious and subject to the depuration of its conduct in the so called «tribunal of residence.»

It is, therefore, on the viceroy that the royal coffers, distributed in the territory, and the private treasuries, the tribunal of Accounts, a tardy and obstructive body of men, depended; offices and clerks, favoured with particular jurisdiction and special judges who tried their causes, substracted almost entirely to the ordinary jurisdiction.

If one would make an inventory of the number of tribunals, administrations, offices and accountant's offices of the Royal Treasury; if one sums up the number of persons employed in the management of the funds; when one calculates the multitude of edicts, proclamations, royal ordinances, agreements and by-laws on the matter, it one strikes, that the King's money was incalculable. Nothing more inaccurate: the King was the first to be ignorant of the amount of his treasury; the commentary note to the accounts lasted five years, and in 1767 it was in vain that it tried to impose the system of double entry to keep the account and reason of the Royal Exchequer.

However, from the few known dates, one can make out, that in spite of its then marvellous production of precious metals, New-Spain was poor, taking the meaning of the word of *riches* in its modern capacity. Some of the colonials, religious bodies and a few in a very modest way, satisfied their wants, but the greater part were in lack of a social well-being and of all that which was not absolutely indispensable to live in piety and ignorance, at the expense of the tyrannical restrictions of commerce, of the needy development of a few industries and of the rashness after monopolies. By a law passed in 1701, the price of baize for the mourning of Charles II was fixed; in the time of Philip II a double tribute of eight reals was exacted from the Indians, out of which seven had to be paid in money or in maize and for the rest in a hen, so as to stimulate the breeding; high political and ecclesiastical personages, says Torquemada, gathered the birds for the purpose of selling them to the needful tributaries for two and three reals: isolated facts which give margin for reflection.



A painting by the cacique of Acámbaro, presented to Anthony de Mendoza, and representing the produce of the mines of Tlalpujahuá to H. M. (Manuscript of Beaumont.)

We are already short of space to detain ourselves in studying the details of the so called «Exchequer,» and which seemed to be more an inextricable labyrinth than an orderly administration. We are nevertheless compelled to put before the eyes of our reader, that which we might call the colonial Budget, and in order to obtain that object, we cannot do better than to reproduce the known diagrams of the *History of the Exchequer*, written by Messrs. Urrutia and Fonseca. They are as follows:

STATEMENT of revenues and their distribution, derived from the various branches of the Exchequer of the kingdom of New-Spain, destined to defray the ordinary and general expenses of an ordinary year, taken during the space of five years from 1785 to 1789 <sup>(1)</sup>.

BRANCHES OF THE EXCHEQUER	GROSS INCOME	Administrating expenses and the purchase of monopolized materials	NET INCOME	Private and general obligations of the kingdom	ULTRAMARINE CHARGES	SURPLUS
Tax on assays . . . . .	\$ 78,292	51,072	27,220	11,258	—	15,962
Idem on gold . . . . .	13,314	—	13,314	—	—	13,314
Idem on silver . . . . .	1,803,540	—	1,803,540	—	—	1,803,540
Idem on gold and silver jewelry . . . . .	14,161	400	13,761	—	—	13,761
Coinage of gold and silver . . . . .	1,273,701	353,347	1,220,354	3,717	1,244	1,215,393
Alum, copper, tin and lead . . . . .	3,132	400	2,732	125	—	2,607
Tributes . . . . .	8,543	28,820	786,617	1,131	—	606,087
Quitrents . . . . .	1,326	—	1,326	—	—	1,326
Employments . . . . .	33,718	—	33,718	1,891	—	31,827
Chancellorships . . . . .	3,252	1,397	1,855	—	—	1,855
Stamped paper . . . . .	56,765	3,334	56,431	19	—	56,412
Annats of the half year . . . . .	59,530	4,354	55,176	—	—	55,176
Tax on nobility in lieu of military service . . . . .	10,483	430	10,053	—	—	10,053
Tax on licenses . . . . .	504	—	504	—	—	504
Sales, purchases and compensations of land . . . . .	1,540	17	1,523	—	—	1,523
Grocery-stores . . . . .	68,677	492	68,185	—	—	68,185
Confiscation of prohibited goods . . . . .	3,024	659	2,365	—	440	25
Triticum, indigo and vanilla . . . . .	41,387	—	41,387	—	—	41,387
Wine, spirits and vinegar . . . . .	57,812	23,602	34,210	2,616	—	31,594
Ice . . . . .	28,823	—	28,823	—	—	28,823
Tanned goat-skin . . . . .	4,615	301	4,314	—	—	4,314
Cock-fighting . . . . .	42,480	804	41,684	—	—	41,684
Gun-powder . . . . .	451,909	11,221	160,668	97,038	—	63,630
Lottery . . . . .	134,006	46,387	87,709	25,739	—	61,970
Ninth . . . . .	178,111	105	177,940	26,301	—	151,555
Excise . . . . .	3,545,715	305,506	3,151,209	23,637	—	3,127,572
Magney . . . . .	816,820	58,906	757,914	20,893	—	737,021
Navy and average . . . . .	10,094	258	9,836	170,320	3,420	—
Custom-house . . . . .	600,570	—	600,579	—	—	600,579
Anchorage, ship and other maritime duties . . . . .	14,641	34	14,607	69	—	14,538
Privileged ballast in Veracruz . . . . .	25,095	12,589	12,443	—	—	12,443
Salt and salt mines . . . . .	201,033	109,537	91,496	378	—	91,118
Lands, commons, houses, belonging to a town . . . . .	32,960	10,302	22,657	—	—	22,657
Balances of accounts . . . . .	6,288	1,115	5,173	387	—	4,786
Gifts . . . . .	4,818	—	4,818	8,702	—	—
Goods which have no known owner . . . . .	352	—	352	—	—	352
	\$ 10,747,978	1,395,662	9,352,316	491,810	5,104	9,032,190
Deficit in the branches of the Navy and gifts . . . . .						176,788
Surplus . . . . .						8,855,402
Allowances and remittances . . . . .						3,011,664
Balance left for the expenses of the kingdom . . . . .						5,843,738

(1) In order to simplify the reading, we will omit the fractions of reals and grammes in this and the following diagrams.

STATEMENT of revenues and distribution, in an ordinary year, and the amounts remitted to Spain on their account.

BRANCHES	INCOME	NET INCOME	General and private obligations	Remittances made to Spain
Quicksilver . . . . .	627,412	526,300	—	870,038
Playing-cards . . . . .	125,076	80,040	—	130,291
Tobacco . . . . .	6,147,342	3,184,17	—	2,350,599
TOTAL . . . . .	6,899,830	3,890,526	12,042	3,351,328

STATEMENT of revenues and distribution, in an ordinary year, of particular branches or of the second class, expressed as follows.

BRANCHES	GROSS INCOME	NET INCOME	Private and general obligations	ULTRAMARINE REMITTANCES
« Venas de cámara » . . . . .	6,692	6,692	9,493	571
Bulls . . . . .	266,142	252,337	5,002	—
Tithes . . . . .	55,377	55,377	3,500	—
Vacancies of greater and minor benefices . . . . .	137,818	137,818	44,489	80,585
Annats of the half year and ecclesiastical stipends . . . . .	64,396	64,396	—	29,907
TOTAL . . . . .	530,425	516,620	62,485	111,063

GENERAL statement of receipts and expenditures which odd branches had in the royal treasuries of New-Spain in the year 1789 <sup>(1)</sup>.

ODD BRANCHES	RECEIPTS	EXPENDITURES	SURPLUS	DEFICIT
Temporalities . . . . .	585,202	60,211	495,081	—
Hereditation of California . . . . .	75,633	69,071	6,562	—
Properties left by a prelate . . . . .	31,499	—	31,499	—
Communities of Indians . . . . .	9,387	50,464	—	41,078
2 per 100 on communities and 4 per 100 on corporation lands . . . . .	608	—	608	—
Royal Hospital for Indians . . . . .	875	875	—	—
Part of hospital tithes (ninth and a half) . . . . .	9,187	11,207	—	2,079
Half of hospital real . . . . .	2,601	1,239	1,452	—
Half of Minister's real . . . . .	46,202	23,617	22,585	—
Judicial expenses . . . . .	746	933	—	187
Law court expenses . . . . .	674	1,485	—	810
Palace buildings . . . . .	3,350	9,072	—	5,721
Rampart . . . . .	5,316	1,152	4,164	—
Drainage of Huehuetoca . . . . .	21,522	112,071	—	91,448
Ferriage . . . . .	25,099	15,157	10,811	—
Seignorage of mining . . . . .	207,802	158,313	49,581	—
Suppression of drinks «para acordada» . . . . .	23,487	22,448	1,038	—
Imposts on aloe liquors «para crimen y acordada» . . . . .	19,429	21,666	—	2,237
Idem on pavements . . . . .	—	170,000	—	170,000
Idem on cocoa for the militia . . . . .	2,043	356	1,688	—
Idem on maguey liquor and cattle . . . . .	16,774	10,102	6,582	—
Idem on the Province of Tabasco . . . . .	8,772	49,052	—	40,279
Invalides . . . . .	76,523	28,072	48,452	—
Equipment of invalides . . . . .	706	2,325	—	1,621
Mutual aid Society for military . . . . .	29,609	11,875	17,825	—
Idem for ministers . . . . .	19,408	17,975	1,433	—
Idem for offices . . . . .	15,909	6,442	9,466	—
Idem for pilots . . . . .	746	—	746	—
Seamen's fund . . . . .	336	1,186	—	851
Deposits . . . . .	357,311	455,949	—	98,637
Loans . . . . .	94,586	166,177	—	71,592
Redemption of captives . . . . .	10,950	—	10,950	—
Property of defuncts . . . . .	20,938	25,350	—	4,413
National Bank . . . . .	50,000	—	50,000	—
Cathedral pensions . . . . .	36,715	73,832	—	37,116
Assignments . . . . .	7,303	3,819	3,573	—
Royal and supreme council . . . . .	621	—	621	—
His Excellency the general Superintendent . . . . .	627	1,552	—	925
Remissibles of private persons . . . . .	77,297	86,849	—	9,555
	1,897,128	1,700,953	774,732	578,560

## CONCLUSION

Surplus . . . . .	774,732
Deficit . . . . .	578,560
Net surplus . . . . .	196,172

(1) To make it clearer, the small differences observed in the results of the partial rests in this diagram procede from our having voluntarily omitted the *reals*, which, as fractions of unit of the *peso*, figure in the work of Messrs. Urrutia and Fonseca.

With regard to the expenditures, we give here the expenses of the Colony, in the way of information, taken from the same source:

Balance left for the expenses of the kingdom according to diagram n.º 1. \$ 5,843,738

Its distribution:

Salaries paid to legal functionaries . . . . .	\$ 124,294
Regular soldiers and volunteers . . . . .	» 1,339,459
Salaries to the militia . . . . .	» 169,140
Garrisons . . . . .	» 1,053,707
Missions . . . . .	» 42,494
Various salaries . . . . .	» 54,482
Pensioners . . . . .	» 92,439
Forjados (1) . . . . .	» 47,268
San Blas Arsenal . . . . .	» 98,316
Provision in store-houses . . . . .	» 93,005
SUM . . . . .	\$ 3,114,604

(1) Probably *forjados* (indispensables).  
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<i>Anterior sum.</i>	\$ 3,114,604	
General obligations in War-Department.	» 185,894	
Obligations of the Kingdom . . . . .	» 104,551	
Debits of anterior royal dominion . . . . .	» 86,893	
Revenues of the same . . . . .	» 11,592	
Annuity fund . . . . .	» 1,897	
National Bank. . . . .	» 4,140	
Temporalities . . . . .	» 72,728	
Salaries in Treasury-Department . . . . .	» 508,389	
TOTAL SUM.	\$ 4,090,688	
Net surplus, after paying all obligations of this public treas.	» 1,753,050	\$ 5,843,738

+ r

If the reader has studied the preceding diagrams with attention, he will have observed, that the dominant impression produced in reading it, as we have already said, is the one of a discordant composite in which it seems to be impossible to discover a single directing principle, as the thread of Ariadne, which would allow finding the way-out of such a maze. In spite of all this, if we detain ourselves to consider the preceding figures with a clear mind in applying the modern sociologic principles, we may perhaps be able to put the key to the enigma, and having already deciphered, will help much to explain the posterior events, the estimation of which has brought on the division of opinions between our traditional political parties.

Let us try it briefly, stating from the beginning, that the amount of the receipts came up, in round figures, to \$ 20,000,000, of which two fifths at least,—probably the half,—was not invested in New-Spain, but which was sent to the mother country or other colonies.

On the other hand, if we examine the items of the revenues closely, we see, that the taxes weighing on New-Spain came up to eighty, under very diversified and singular names; that not one was of a general character; that many of them fell on commerce and that many others were the proceeds of monopolies and government shops. To this has to be added, that the clergy, possessor of more than half of the urban and territorial property, did not pay anything to the fisc; and lastly, it has to be considered, that the whole financial system was organized on the basis of special funds, that is to say, to create a fixed income to satisfy also a fixed necessity, and it will easily be understood, that all that disjointed heap of taxes, did not rest on any scientific basis and that it was an inexhaustible source of disorders in as far as administration is concerned, and of an irritable and intolerable vexation in political orders.

The very vice-regal authority knew it to be so, for the following criticism on such an absurd system was left written by the hand of the celebrated count de Revilla-Gigedo:

«From the report I have just made of the various branches of which the Royal Treasury is composed, the great number of them is seen at a glance, as well as the difficulty to attend to all and to each of them separately and to avoid a complication and confusion in their management, which ought to be carried out in the best of order and the greatest clearness.

»It is also impossible for the tax-payer to have a knowledge of every one of the taxes, to know clearly what he has to contribute, how and why he has to do so, the ignorance of which makes the taxes more difficult, even for the most loyal of subjects, incapable to defraud the royal exchequer, well convinced of being under the obligation to bear the expenses of the crown, the keeping of the soldiers, for their protection, and of the salaries of the functionaries, to maintain the just administration of the law, and to whom the arbitrary way of the clerks is alone repugnant, born from the number of rules and their complications, and the excessiveness or the bad manner in which the inferior subordinates generally behave themselves.

»All this is very difficult to remedy while there are so many imposts, and some of them so complicated and of such a difficult graduation and qualification, which ought to be precisely left to the free and uncontrolled will of the tax-collector.

»For the same reason, it would be convenient to lessen the number of revenues, even at the expense of surcharging some of the principal ones, so as to indemnify the Exchequer with the surplus for the loss or for that which it had no more to collect by suppressing the lesser revenues.

»It would also be convenient to make the names of the taxes uniform, which, being of the same category, are used to have different names in distinct ports, as it happens with the duty called *anchorage* in Veracruz and which is known in Campeche as duty on *ships*.

»It would also be conducive if certain duties were to be abolished, though for distinct reasons and names they pay at the same time duty for the very same object, as for instance: duties are paid on the importation of goods, excise on sea, fortification, admiral's dues, duty on average and the fleet. It is very difficult for the tax-payer to instruct himself as to how and when he has to pay duty on each one of them, and difficulty is also added for its regulation, and to control the account with the proper separation.

»It would be much easier to unite all classes of duties, collecting them under the name of imports, and that they had a fixed and constant quota, only varying according to the class of goods or produce, for this regulation and distinction becomes necessary to favour breeding, farming, mining and national fabrication and to check by these means, as far as possible, foreign introduction.

»It would also be a very essential thing that all the taxes were fixed at a rate of percentage and neither of them by half a load, parcels, barrels or pieces of whatever class they may be, so as to avoid, that a quantity of effects of little value, should pay as much as an other of great value of the same bulk or packed in the same way. The collection and payment of the import duties would also be much facilitated if they were thus regulated, if the reduction of the different moneys, and the increase in rates at present made in Veracruz on the effects coming from Spain were not to exist; it would be much more simple and just to appraise them according to the value and estimation they would have at the time of their arrival at those places in the current money of the country, and to collect at the place itself the percentage corresponding to each of them according of the class of goods.

»From the monopolized effects, there are very few of which private individuals would not draw a greater benefit than that which the king obtains, by which it would also follow, that the public in general would be better served, and that some vassals that might be employed in them, would find themselves in a better position to contribute to H. M. in an other style a great part of which he now reaps the benefit; and I even believe, that the whole of that which the king annuably receives in certain branches, could be collected to mutual advantage, such as: tanned goat-skins, copper, alum, tin and lead, to which many subjects would dedicate themselves, especially to the last named articles, put entirely free, as experience has also taught that they have been increasing, at the same time as that first austerity, with which they were put in a rigorous monopoly, has more or less relaxed.

»This would not happen with the revenue on tobacco, as I have already hinted at, for it was very difficult to substitute an other expedient that would yield as much. With regard to quicksilver, there is also the particularity, of which I made mention, that it should be monopolized.

»So as not to leave it in the hands of the public, there is also a reason why in coining it should be necessary to continue its alloy and deficiency with a very transcendental perspicacity to foreign nations, and to facilitate its working so as not to suffer any delay, as it actually happens, in putting all the metal in circulation that leave the mines.

»There are also tangible political reasons why the gun-powder factories should be in the hands of the government, and the simplicity of the manipulation of salt calls for the preference to be given to this in case of some article has to be monopolized, as well on account of this as also because its general use subdivides and apportions this tax very equally, and although this last reason is not the case with the ice, the reflections made by me in treating on the subject work in favour of the monopoly. And as to

playing-cards, being an article of very little necessity, and so many times ruinous, is sufficient that its manufacture and commerce in not being free, should not be felt.

» Nevertheless, if it were possible to combine and to suppress the greater part of these monopolies with the other revenues of the Exchequer, so as not to have any diminution, it would be very beneficial to the public and to all vassals, especially as regards gun-powder and salt-mines, which in this kingdom have a very distinct use to that generally employed in Europe, as I have already expressed, because they are an instrument and necessary means for the extraction and separation of metals, the principal occupation and business in these kingdoms.

» These are matters of a very delicate combination, they exact a vast knowledge and very careful calculations, to which I have not been able to dedicate all the time and meditation required in order to form a more classified conception.

» The many and frequent attentions of this government, as your Excellency will see, leave hardly time to think of the essential points of the first order, and for which it is necessary to overcome infinite difficulties and in general not to count on any of those employed in the management of any of the branches of the Treasury, for every one of them knows very well, that in better simplifying the rules governing the revenues, and reducing a great part of the branches composing these, or one joined with the other, the moral corruptions would be of less importance, which they now make or appear to make necessary, with a very reduced number of clerks, and the precise result would be, that its respective authority and faculty would diminish in various ways and many times as well the profit which they obtain by them.»

\* \* \*

In spite of such judicious opinions, no radical change whatever was introduced; and in this state of things, at the cry of «down with the bad government,» the insurrectionary movement of 1810 broke out. The castle of cards of the colonial financial system, for want of a solid economic basis, was not able to resist such a trial and was forced to come to the ground as soon as it was in need of the traditional support and of the timorous respect to the constituted authority. A more clever pen than ours has briefly traced the history of this period to which we will resign the word (1):

«It was in September 1810 that the worthy priest Hidalgo gave the cry of independence in Dolores, and owing to the progress made by the insurrection the last three months of that year and the following, the revenues fell unexpectedly.

» Leaving the fields, the multitude run after their deliverer; the workmen and artisans left their daily tasks; the roads were full of all classes of people anxious to finish with the Spanish dominion; the insecurity commenced reigning every-where, and ports, villages, towns and provinces were full of insurgents. Agriculture was in want of labourers, commerce of safety, the hardly grown up industry of protection, and landed properties, factories and mines were all paralyzed in their production and returns.

» Anthony de Medina, referring to this epoch in his Memorial presented to Congress on the 3<sup>rd</sup> of September 1823, says: «The very same efforts of the individual interest were prejudicial, because in trying » to traffic in the best possible way, it had to change its course, leaving those used and with them some » habits too beneficial to the Treasury. Thus it happened, that metals in bullion were exported by way » of Tampico, San Blas, etc., defrauding the copious imposts produced by the coinage and hampering the » fertilizing irrigation which they formerly gave on their transit to this Capital on its return under the » form of money. Thus it was, that they learned not to receive the European goods direct from the Peninsula, but from abroad via Panama, Portovelo and San Blas and to introduce them clandestinely by » both coasts, the North and the South, with so much detriment to the excises and other direct imposts;

(1) *History of the Debt contracted in London*, by the licentiate Joachim D. Casasús. Mexico, Government Printing office, 1885.



» corruptions difficult to correct even after having obtained the Independence and absolute quietness, multiplying in this way inexplicable evils, deserving more to be deplored than referred to.»

» So as to give an idea of the financial disorder at that epoch, the increase of expenses made indispensable by the revolution has to be added to these causes, which produced the decrease of the revenues. The complement of the army was doubled so as to put it on a warfooting and to provide for the necessities of the campaign; the storing of war materials had to be done on a larger scale and it was necessary to employ large sums to check a spontaneous movement of a whole nation which everywhere found elements to realize its emancipation. The vice-regal government was obliged to exhaust all its resources in making loans, to accept donations and to increase, therefore, the taxes and imposts, to refund the first and to be able to prescind of the second.

» The most productive revenues, which were the excises, the imposts on gold and silver and the tobacco monopoly, were the first to feel the revolutionary overthrow. Besides, the mines, the minerals of which were of little alloy, having had to suspend their working on account of the high price of the necessary articles, the coining, which in 1810 was \$ 19,046,188 fell to \$ 4,409,266 in 1812 and the consequence of which was, that the profits which had been \$ 1,674,147 in the first of the above mentioned years fell to \$ 613,097 in the second. Previous to the year 1812, the coining fluctuated between six millions as a minimum and twelve as a maximum; but the total of produce, which was \$ 571,987 in 1813, did not rise to more than \$ 972,594 in the year 1819 in which the war seemed to have finished and confidence commenced to grow again. Speaking of the revenue on tobacco, Mr. Medina expresses himself thus: «The revenue on tobacco, the most productive branch of the whole Public Treasury, which had reached such a flourishing state, that the whole value of sales reached \$ 9,585,697 in the year 1809 and its expenses amounting to \$ 5,978,747, leaving a clear profit of \$ 3,579,950, did not only suffer an enormous reduction in its income, the years following that of 1810, but it also lost credit, for as it could not meet the bills drawn upon it by the planters, the latter demerited so much in their estimation, that the most favoured ones lost as much as 80 per 100, the result of which was, that on account of the want of encouragement, they curtailed the cultivation of tobacco and the small crop they had was used for smuggling, to which corruption in this unlawful trafficking buyers and sellers delivered themselves up, which very much reduced the revenues; and, finally, it not only left off providing the inland provinces but not even all the administrations subject to the general administration of the archbishopric of Mexico were provided with.»

» The excises run the same chance as the duties on assay and coinage. If in 1810 the total of their proceeds amounted to \$ 1,193,452, it fell to \$ 861,085 in 1812 in spite of an extra 2 per cent which made it come up to 8 per 100; but in 1816 as much again was put on appraised goods and 6 per 100 on casual goods or tariff with the name of eventual excise in substitution of the convoy, war and squadron imposts, in consequence of which the appraised goods paid 16 per 100 and the casual goods 12, according to the prices fixed in the tariffs and in agreement to the current ones. Owing to these consecutive increases, the custom-house, which in 1812 had collected \$ 861,085, received the amount of \$ 1,774,138 in 1816 through the various duties collected, and in 1820 \$ 1,849,304, that is to say \$ 913,053 more than in 1816, and \$ 988,219 more than in 1820, the last year of the vice-regal government.

» The decrease which every one of the various revenues suffered since 1810 were above all felt in the General Treasury of the Army and Exchequer, which could no more attend to the necessities, presenting themselves imperiously to cover public expenses, without having repeatedly recourse to loans. The ordinary revenues, which in 1810 had been \$ 6,455,422 in hard cash and \$ 2,905,754 in silver bullion, fell to \$ 4,181,102 in hard cash and \$ 821,393 in silver bullion in 1811, making a loan of \$ 2,484,880 necessary, which made the total of incomes come up to \$ 8,438,655 (1), always leaving a difference of

(1) In order to complete this sum, it was still necessary to dispose of \$ 918,280, being the surplus of the previous year, which Mr. Caasús did not take in consideration.



\$ 3,022,564 in favour of 1810. In the year 1812 the total incomes did not reach \$ 5,151,218 (1), in spite of having incurred a debt to the amount of \$ 2,798,124; because the hard cash collected did not reach \$ 1,664,282, and that received in silver bullion \$ 429,447. The whole five years, from 1812 to 1816 was dismal for the Public Treasury, because in neither of the afore mentioned years could the expenses be paid without having recourse to more or less onerous loans. The total collection of taxes was \$ 17,063,365, but in this sum \$ 5,337,367 were included for loans, so as to leave only \$ 11,726,198 in the collection of duties, giving an average of \$ 2,345,239 per year.

»The revenue system, as it is seen, was entirely unhinged; its old production had slowly dwindled down to an almost insignificant number; the administrative levers had to such an extent been relaxed, that it was not possible to introduce the indispensable morality in the collection of the taxes to avoid the collusion of the functionaries with the defrauders, and to the prosperity of which mining, commerce and agriculture had benefited, had followed the complete abandonment of the first, the paralización of the second and the destruction of the third on account of the absolute want of elements for its development.

»Such was more or less the state of the Public Treasury when the civil war was finished in the year 1821.»

## CHAPTER II

### THE PUBLIC TREASURY DURING OUR POLITICAL CONFUSION

**T**HE Public Treasury of States embraces the whole of its national life. «Just as the naturalist reconstructs the animal by knowing a tooth, the total organism of a nation reveals itself to the financier in its Budget. Those piles of figures on the sheets of a voluminous book, consulted by very few, are the measure of the prosperity or poverty of a country, of its productive strength, tendencies and designs, of its decline or progress, of its political and economical institutions, of its traditions and culture, of its power and even of its future destiny.»

If these words of Mr. J. Navarro Reverter, in his *Studies on the Spanish Treasury*, enclose a profound sociological truth, as it cannot be doubted, they explain to us why it is almost impossible to make an orderly diagram of the financial history of the Mexican Nation while the political confusion reigned in it.

We have already given our opinion in former chapters of this book on the principal causes which determined the independency and which fatally led the emancipated colony to a permanent state of feverish agitation which had to last till, if not all, at least many of the morbid elements of that organism slowly disappeared. In studying its ominous influence on commerce, we have also exposed many of the fiscal dispositions of those times of painful recollection: a prohibitory system of order even to the absurd; manifold excises and without any uniform basis; inland duties and *octroi* changeable from State to State; charges on exportation and many times a prohibition to export our then principal wealth, consisting in precious metals; obstacles and shackles without account put on the circulation of merchandise in the interior of the country, have already been matters on which we have treated in the part of this book dedicated to our slow and laborious mercantile evolution. These are, consequently, so many more chapters which we shall have to omit here; and more than one account, chronologically arranged, of our financial disasters would, if it were not to tire our reader too much, reduce itself to repeat to the infinite the eternal story of Penelope's cloth or of Danaos's daughters' cask, we will try, therefore, to present him in synthesis as short as it may be possible for us to do, the enumeration of the principle causes which contributed

(1) The cash in hand of the previous year was \$ 259,365.

to maintain the confusion in the finances, to raise disorder and bankruptcy as a permanent rule and to exalt concussion, fraud and smuggling in all spheres of that wrougly called public administration. Some episodes, which the reader will find in its proper place, will serve him to complete the opinion which he may form of that which may be called, without any exaggeration, the calvary where all our governments, though some of them certainly with the best of intentions, were stubbornly busy to crucify the national interests.

The current opinion amongst public writers who have studied the Mexican Public Treasury from the beginning, is, that our first governments fell in this as in many other matters in the error to destroy with one stroke the existing rule instead of going to change it little by little. May it be allowed to us, though with the natural fear of one who throws himself for the first time on unexplored ground, not to conform ourselves with this sentence and to present, though in a few words, the reasons of our appeal perhaps too highspirited. In order to do so, let us turn back a little.

Intricate were the predisposed causes of the cry at Dolores, but amongst them may be counted as the most principal ones, those of economical origin: the unequal distribution of wealth, the grievous system of colonial imposts and the shakles which the monopoly put on all those resources which the conquered might have been able to employ in order to make themselves fortunes.

It was not the wealthy who raised the cry of revolt, nor was it the native race; it was the middle class, the one who with greater aspirations and less prerogatives shook off the yoke.

Three centuries of passivity, custom and exactions; three centuries of a quiet enjoyment of the colonial wealth on the part of the government, aggravated still more the disorder and sudden changes of a blood-thirsty struggle which lasted eleven years. In vain did the clergy and the soldiery fence with their weapons; the insurrection spread. In vain did the viceroys abolish the most odious imposts: it was too late. The Spanish dominion found its ruin in that which formerly was its fortune.

The fiscal riches of the colony were great but not permanent, just like those whose fountain is found in unjust imposts and monopolies. When a government does not leave any of its wealth to the majority of the social body; when it accumulates but does not distribute; when it monopolizes but does not lend any efficacious service, the least trouble provokes the conflict and shuts up the fountain of the revenues. When the first movement of the rebellion were initiated, mining was paralyzed at once, the then greatest element of prosperity; once the roads cut off, neither the King's quicksilver nor the miner's metal could travel without great risk. The day-labourer and the blaster's helpmate, condemned to a work for slaves, joined the ranks, agriculture and mining were in want of hands. Pillaging, cattle stealing and plundering reigned under both banners, paralyzing all fruitful activity. It was then when the vice-regal government had recourse to supreme measures: to a forced loan, to small donations, to the taking hold of funds in its reach; to the burning of its monopolized products; to the increase or mad abolition of some imposts; to the imprudent use made of its credit. The insurgents on their side had recourse to patriotic expedients, they issued paper money, confiscated real estates and the resources of the enemy; they had recourse to all inherent means of a struggle without quarter. Already by Mr. Casasús's words it has been said at the end of the preceding article, but worth repeating it: that the excise found itself without any income during the war; the mint felt the paralization in mining. Not to remedy the *deficit* but to lessen it, recourse was taken to the creation of various duties such as those of Convoy, War, Squadron and Excise on goods sold by chance. Agriculture ruined, the roads intercepted, the most necessary articles for mining at a fabulous price, silver was converted into a depreciated merchandise being sold at less than its legal value. Provisional mints were established, and in spite of all that, from nineteen millions coined in 1810, the coinage came down to the fifth part, and although it seemed to better itself in the years 1818, 1819 and 1820, it did not get to the primitive cipher. The *total reserve of mining*, which amounted to \$ 2,000,000, was reduced to \$ 836,957 when Independence was declared, for it filled

up the deficiencies of the Treasury and those of the revenue on tobacco. This revenue, which in 1809 had a gross value of \$ 9,558,687 and net proceeds of \$ 3,579,950, did not only suffer an enormous decline in its receipts but also in its credit: in not being able to pay the bills drawn by the planters, it reduced the cultivation and the scarce crops encouraged smuggling. This revenue seemed to revive in 1817; but as it helped the soldiery with \$ 6 000,000, the amount of its debts came to as much. If this happened in the principal departments of the Public Treasury, it is easy to suppose the chance run by those of second and third class.

What did, therefore, destroy the insurgents in finishing with the Independence, if in reality there was nothing left? The blast of a cruel and bloody war of eleven years had passed over the inconsistent and slippery system of taxes paid to government which was called the *Royal Exchequer* and it had only happened what was natural: all was converted in ruins and in irreparable ruins, because in separating itself from the mother-country, the rising nationality was no more favoured with the traditional respect of an indisputable and undisputed authority, the only link that tied and maintained on foot that which we have already before called disjoined heap of exactions and monopolies.

It might be said, that what prudence advised to do, in expectation of favourable times to reform the old imposts and monopolies, was to reconstitute them temporarily to their old strength. It would have been impossible to attempt it: as we have said, the vigorous element of respect to the authority was wanting; many imposts had already been abolished, and lastly the independence was necessarily and principally accomplished with that object. What Statesman could have advised to turn back?

No; the mistake was in an other part and probably, as in many other cases of our history, on one side they originated through the legend of our wealth, making the public attorneys believe, that the revenues of that ruined public treasury, free from the remissions to Spain, would be sufficient for the necessities of the new nation, and on the other, the profound ignorance exhibited of that which those necessities required, at least as an irreducible minimum.

After eighty years of independence, it is as clear to us to-day as noonday, that the remedy laid in the complete change of the orientation of the financial policy followed here up to then, amongst other causes just as in the mother country, on account of the error of the times; but as we have also said, the principal directors of the new nation continued to be those of the colonial epoch; it was necessary to run over a long and painful *via crucis* before new men with new notions redeemed us from the economical tyrannies, inseparable companions of the political tyrannies.

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Be it as it may, and in stretching the point to the controversy which we have only initiated so that it may be decided with more authority than our poor one by those who in future have to occupy themselves in these matters without being constrained by the little time and space which we can consecrate to them, we penetrate in the intricate labyrinth of our financial history.

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And before all, as one of the fundamental explanations of this maze, let us be allowed to mark out the imperfect organization of our Treasury offices, generating, as an immediate result, the absolute want of accounts of the Public Treasury.

Two adverse radical tendencies have amongst ourselves disputed the field with regard to the organization of those offices: according to one, the Secretary's Office or financial Department ought to have concentrated the supreme direction of the branch in its double function to collect the revenues and to distribute its proceeds; according to the other, two organisms ought to have been created, the first as collector and the second as distributor, not only different from each other but almost independent or hardly tied with loose and feeble links, produced by the dispositions of the Secretary of the Exchequer.

The first system acquired a concrete form by the law of 16<sup>th</sup> of November 1824, issued by the cons-

tituent Congress, of which Guadalupe Victoria was President of the Republic and Joseph Ignatius Esteva, Minister of Finance, and by which the administrative colonial system of the Public Treasury was changed for the first time, which up to then only preserved but insignificant alterations.

«When the constitutional Congress met on the 5<sup>th</sup> of November 1823,—says Matthias Romero in his famous Financial Memorial of 1870, to which we shall still have to refer many times,—each revenue had its special direction and auditorship. The fiscal agents of the federal government in the States, were the intendants. The law of the 21<sup>st</sup> of September 1824 abolished these functionaries and in its stead put commissaries. In giving the constitutional Congress of 1824 to the question of financial administration all the importance it had, it decreed the law of 16<sup>th</sup> of November of that year, entitled, *settlement of the Administration of the Public Treasury*, which is without doubt the most philosophical and complete system of financial organization formed since its independency. The general directions and auditorships of the different revenues, which then existed, were extinguished; the direction and administration of the Public Treasury were centralized in the secretaryship of the branch, and a comptroller's Department was created in the Department of the Exchequer, in charge of which the functions of the general auditorships suppressed were committed, and principally the formation of the Budget and of the general account of revenues and expenditures which the Chancellor of the Exchequer had to present annually to Congress. The general Treasury of the Federation was expediently organized, giving this name to the office which then was called the General Treasury of the Army and Public Treasury. It was ordered, that physically and virtually all the proceeds of the revenues and the amounts of any source of which the federal government might dispose of, should enter in this office, only excepting in this disposition the expenses of the administration of the revenues and those belonging to the public credit. It had under its charge the distribution of the public funds, be it in a direct way or by means of the general commissaries of the States; and the obligation to formulate observations to the illegal payments which the Executive ordered to make was also imposed upon the Secretaries of the Exchequer, giving a justificatory account to the general auditor's office if the payment was made, notwithstanding the said observations. A central war and navy commissariat was created under the control of the Secretary of the Exchequer, charged with the collection of the necessary data for the formation of the general accounts of the army and navy. The Executive was empowered to send inspectors to the offices of the Exchequer. A provisional office of residues was created, charged with the definite liquidation of all the accounts which were curtailed in virtue of the new order of the Public Treasury. Finally, the principal auditor's office at the Exchequer and the public credit were created, charged with the examination and interpretation of the accounts of the Executive, putting this office under the exclusive inspection of the House of Representatives. Lastly, it was ordered, that all the offices of the Exchequer, including the General Treasury, should send their original accounts to the Secretary's office so that the Comptroller's department may at the sight of them form the general account. This, besides facilitating the formation of the general account, was the only effective means by which the Secretary of the Exchequer had a real oversight in respect to the offices of his department.»

The second system, which brought its origin from the colonial rule, had Raphael Mangino as its fervent apostle, who, be it as first accountant at the Treasury, be it as head treasurer, had shown himself enemy of the principle of concentration, and who, in being Secretary of the Exchequer of general Anastatus Bustamante, introduced its complete abolition.

«The initiatives of Mr. Mangino,—says Mr. Romero in his mentioned Memorial of 1870,—supported by the whole influence of the administration of which he formed part, were gradually converted into laws. By that of the 26<sup>th</sup> of October of 1830, a new organization was given to the Treasury, by which this office received a wide scope respecting the attributions which the law of the 16<sup>th</sup> of November 1824 conferred on it. Article 9<sup>th</sup> of that law relieved the comptroller's department of the Secretary's office of the Treasury of the obligation to form the second part of the general account of the public treasury which the Secretary of the Exchequer had to present annually to Congress, that is to say the account of dis-



tribution, as it was called by the law of 8<sup>th</sup> of May of 1826, and it imposed this obligation on the general Treasury.

»In order that this office could perform its duty, to make up its general account by the original approved accounts and not by vouchers, it was necessary by the decreed article ninth of the law of 26<sup>th</sup> of October 1830, that all the distributing offices should send in their original and approved accounts. In this manner, only one part, and the least important of the accounts of the Treasury offices, were sent in the Secretary's office; and although the others went to an office dependent of the very Secretary's office, this substitution of work, enough for an office alone, could not do less than produce serious inconveniences, for it prevented the oversight which the head of the financial department ought to have on the offices under his care, a vigilance which was impossible to practise from the moment the original accounts of some of the offices were discontinued to be sent in. Besides, the revenues and expenditures of the public have always a near relation amongst themselves, and from the moment that there was not the same vigilance and direction on these two functions, it was very difficult to avoid abuses.

»As a consequence of the new obligation imposed upon the Treasury, article 16<sup>th</sup> of the above mentioned law of 26<sup>th</sup> of October 1830, created a section in the aforesaid office called general account, which had to perform part of the functions formerly committed to the care of the comptroller's department and by the law which decreed it. Article 20<sup>th</sup> of the law suppressed the central war and navy Commissariat and the 24<sup>th</sup> disposed, that the effect of the said law should be suspended till those regulating the direction of revenues and the commissariats are published.

»This was not all which was done to destroy the administrative concentration. A short time afterwards, the other two laws, announced in article 24<sup>th</sup> of that of 26<sup>th</sup> of October 1830, were decreed, forming its complement. The law of the 26<sup>th</sup> of January 1831 created the general Direction of revenues under the inspection of which would be all the branches of the Treasury, which on account of the Federation were administered, with the only exception of the Post-office and Mint. The same right was given to this office as that granted to the Treasury by the article 22<sup>nd</sup> of the law of 16<sup>th</sup> of November 1824, that is to say, the one of stopping the fulfillment of the Secretary of the Exchequer's orders which might be considered *illegal or pernicious to the Public Treasury*, with the difference, that the law of 1824 only granted it to the ministers of the Treasury, while that of 1831 extended it to the general Director of revenues and to the heads of the three sections in which that office was divided. The provisional regulation for the general Direction of revenues was decreed on the 7<sup>th</sup> of July of this year, created by the law of 26<sup>th</sup> of January of 1831.

»Article 8<sup>th</sup> of this same law, committed to the charge of the general Direction of revenues the formation of the general statement of revenues, that is, the first part of the general account which the law of the 8<sup>th</sup> of May 1826 committed to the care of the comptroller's department. As this department was no more of any use, article 10<sup>th</sup> of the same law abolished it, disposing, that a section composed of four functionaries should take its place, to which article 11<sup>th</sup> imposed the obligation of forming the Budget, which had annually to be sent to Congress. In this manner the Secretary's office of the Exchequer did no more receive all the original accounts from the offices of the Treasury.

»Once this system adopted, it was followed in all its consequences. It was necessary to organize the distributing offices of the States, and the law of the 21<sup>st</sup> of May of 1831 provided, that the general commissaries and subcommissaries should be under the immediate superintendence of the general Treasury. The decree of the 22<sup>nd</sup> of August of 1833 reduced considerably the number of functionaries and their salaries of the commissaries created by that law. Article 39<sup>th</sup> of the first one authorized the Executive to decree a regulation by which the comptroller's system was unified, the commissaries and subcommissaries, with that of the general Treasury.

»The regulation of the 20<sup>th</sup> of July of 1831 was a result of this authorization.»

The most perceptible result of a financial organization has to be interpreted in the more or less facility of producing its accounts and in the perfection of these, and without going to the bottom of the question,

which so much divided our financiers for many years, we will only quote this fact: from 1826 to May 1870, no Congress busied itself to examine and to discuss the so-called accounts of the public money. It is true, that the Secretaries of the Exchequer at all times accompanied their Memorials to Congress, when there was one, or their reports to the President, when the dictatorship went as far as to abolish Congress, *statements or informations* referring to the proceeds or investment of the public revenues; but all without a single exception, confess the imperfectness of those documents, and some carry their frankness to such painful extremes, that they do not hesitate to say, that they do not deserve any confidence. For instance Francis Lombardo said on the 25<sup>th</sup> of July 1839:

«I think it indispensable to reproduce that which the ministry exhibited in some of the Memorials of the previous years, that is, that the revenue noted in the general statement of incomes is not a real cash produce of the national revenues, neither the entries of the expenditures, which appear in the general statement of distribution, are all the expenses of the nation.» In copying the preceding words, Xavier Echeverría said the same on the 14<sup>th</sup> of July 1840. «The distribution of the public funds in 1840,—says Emmanuel M. Canseco in his Memorial of the 28<sup>th</sup> of July 1841,—amounted to \$ 19,886,306.34; but that which was really spent or applied to the public charges was only the sum of \$ 9,773,573.31.» Ignatius Trigueros in his Memorial of 31<sup>st</sup> of January of 1844, which includes the three preceding years, tells us, that in 1841, «in spite that the total revenue appeared in the statement of receipts to come up to \$ 21,227,263, the real collection of taxes was hardly \$ 14,084,128, leaving the net proceeds at \$ 12,715,533, and that the total revenue of 1843, which appears as \$ 34,138,581 is really rhetorical.»

It is useless to continue accumulating citations which may show the most perceptible result of the corrupt organization of the offices of the Exchequer, because we should fill with them innumerable pages. Let us only say, that of the two primitive rivals, the one of concentration, which Mr. Esteva initiated in 1824 and realized in 1826, commenced bearing fruit during the short period in which it was in force, and it would certainly have been an important factor to introduce order if it had been persevered in the way of perfecting it. It was unfortunately not so, and as we have seen, it fell to the ground in 1830; from then till 1852 in which William Prieto showed himself decidedly in favour of concentration and made praiseworthy efforts in order to return to it, all our Secretaries of the Exchequer not only let the corrupt contrary system to exist, but some of them increased the Direction of Revenues and even created special Councils, be it of a consultive character or that of administrators, who, as the famous one of the public credit of 1856, converted the Secretary of the Exchequer and even the President of the Republic in real mock-kings, incapable to make their authority to be respected and to oppose the anarchical tendencies, which in this as in all other branches of administration were deeply rooted, fed by unfitness, habit, ignorance and corruption.

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Before we leave this chapter of accounts, which in reality they were not, let us speak of an incident which, although trifle in appearance, seems to us too characteristic to be possible to omit it: we mean to refer to the introduction of the system by double entry in the fiscal book-keeping, the history of which is extraordinary.

The king of Spain had already given orders in 1784 that it should be attempted in Mexico, but the precept was obstructed with such resistance, that it had to be revoked in 1787. The famous *private instruction* of the count Revilla Gigedo refers minutely to the sudden changes of this business, and how, out of thirteen opinions taken, only three were friendly to the proposed change, which finally was not made on account of the tenacious resistance which habit and bad faith opposed to it. We do not find any allusion made to the system by double entry either in the laws nor in the Memorials posterior to the independence, till Mr. Trigueros's Memorial of the 8<sup>th</sup> of July 1844, in which he complains, as did all his predecessors, «of the uncertain, unwilling, tardy and inexact» method followed in the controlling department. The first to follow, treating on this matter, is Emmanuel Payno in his review on the state of the

principal branches of the public treasury, directed to his successor in the Ministry, Joseph Ignatius Esteva, on the 10<sup>th</sup> of March 1851, but certainly not in order to recommend double entry, for he says:

«On various occasions, I exposed to the House of Representatives, with all the frankness, that the account keeping at the offices of the public treasury was a real confusion, and that it required a radical reform. Many have been of the opinion, that in introducing the system of double entry in the offices, all the disorder and confusion would momentarily cease in the accounts, and that it would be possible to bring these up to the very day. I think that double entry would be necessary to apply comprehensively to the system of the public treasury, for it is well known, that, though its general principles are the same, every book-keeper employs a different and peculiar phraseology and method, so that the first thing that has to be sought in posting, is the complete uniformity, because in the contrary case, the accounts could not be chequed, and the ministry or the managing offices would have to dictate a different order for every one of the other collecting and distributing offices. Besides this inconvenience, it was soon found out, that as the clerks would not be accustomed to this method of keeping accounts, great mistakes would be made. It is, therefore, for these reasons why I relinquished the idea of fixing double entry.»

It was Mr. Prieto who, for the first time, had ordered, that the system of keeping accounts should be by double entry and of which he gave on account in his report delivered to Congress on the 20<sup>th</sup> of October 1852, saying:

«An other of the improvements introduced, and against which those, whose interests were vividly injured, and the obstinate spirit of the system, raised a cry of reproof, is the account-keeping by double-entry.

»It is certain, that the introduction of the system under the same rules as those followed in commerce, is not strictly applicable to the public account-keeping; but it is also certain, that with some slight modifications, double-entry is the surest guarantee of order, the most unequivocal mover of that arrangement and the infallible lever of the responsibility of those who have to manage funds.

»In the greater part of European countries, United States and lately in New-Granada, doubly-entry has produced the best of results: Why should it not be in Mexico? Because this is the fate which ignorance offers to all important improvements.

»Double-entry applied to military account-keeping has mastered all its opponents; the regulation of the corps, which for many years had not been put in execution, has now been verified with facility by means of that system. The account-keeping of the corps having been made independent, it saw itself for the first time subject to a paymaster, perfecting and moralizing itself, not allowing the state of the cash to be any more the thermometer of the officer's honesty, neither to verify the coming in and going out of the funds for the soldiers at the point of the bayonets. This alone, this sole measure, which in other times would have created a revolution, forms the eulogy of the system and of the one who introduced it, defending, at the same time, its worthy chiefs in whose hands the upholding of the laws is to-day confided.»

It was not for this that the battle was definitely won: the law of February 1854 abolished the resolutions which arranged, that the accounts in the treasury's offices should be kept by double entry; but on the 12<sup>th</sup> of October 1855, a commission of account-keeping was appointed to frame a scheme to which this had to adhere itself, fixing, that one of the bases should be the one of adopting the system of double-entry. Lastly, the law of 31<sup>st</sup> of February 1861, in reorganizing the general Treasury, ordered, that the account of the exchequer should be subject to that system, being still necessary, that Joseph Mary Iglesias should confirm this order by the law of the 6<sup>th</sup> of August 1867 and its regulation of the 1<sup>st</sup> of December of the same year.

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As it was already an established fact, that during more than fifty years we had really no account of the public funds, the reader will readily understand, that what we said at the beginning of the chapter with regard to the impossibility of tracing a classified diagram of the history of our Treasury, was the



truth itself. Therefore, we hope to be pardoned for the inaccuracy and numerous deficiencies in the work we offer him, allowing us to give him a general idea of the receipts and expenditures of the Treasury, i. e. the Budget, at those times, but not without observing, that Mr. Romero dedicated almost the four fifth part of his already mentioned memorial of 1870 to its reconstruction, embracing more than a thousand pages *in folio*.

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The Mexican Public Treasury was conceived in an original extravagance: when it came to live, bankruptcy was born with it, and without any exaggeration, the day following the independence, the first national Government being hardly installed, it was seen, that the receipts did not come up to cover the expenses and that the monthly deficit was at least three hundred thousand pesos or \$ 3,600,000 per annum. The *allowances* and *remittances* had ceased, but the public necessities increased in other ways: the independent exchequer had, with doubtful prudence, accepted the heavy burden of the colonial debts; recompenses and compensations were granted to the upholders of the triumphant cause, and above all, the army had made itself a cumbersome charge from the first moment. Various transitory expedients were practised on, voluntary loans were resorted to, and as all proved to be ineffectual and insufficient, three months before the entry of the triumphant army in the Capital, on the 23<sup>rd</sup> of November 1821, the regent Emmanuel de la B rcena presented himself to the Provisional Government asking authorization to diffuse a *forced loan*. In this way, instead of procuring to restore the equilibrium lost during an 'eleven years' war, which had devastated everything, the right of property, was being attacked, forcing by all means of pressure, including that of prison, wealthy private individuals to deliver up to the fisc the cash money they have, i. e. the best and most positive of their belongings, and killing with one blow the confidence in the authority and the spirit of enterprise (because concealment of wealth was almost made compulsory), instead of employing it in fertilizing the uncultivated land, in making the forsaken mines, and the paralyzed industry and commerce productive; all of them very sad and inevitable consequences of the substitution of force to the quiet dominion of order and justice.

On the other hand, the quota of the taxes, that had subsisted, were reduced without changing the mode of perception nor the fundamental bases on which it rested, nearly always arbitrary, and for this very reason, tyrannical and oppressive; thus it was, why that miserable and anaemic organism did not offer any conditions to the individuals composing it which would permit them to improve its well-being and to make with it the fiscal prosperity.

We are not going to make our readers to wander over all the sudden changes of our financial history, but it remains indispensable to put the most conspicuous events of the first years of our national life before him, so much, that some concrete facts may serve as a foundation to our synthesis, as well as to make it possible to explain that which happened afterwards.

The policy of lessening the receipts and of increasing the expenses was persisted in the year 1822: while the provisional government, on the eve of being dissolved, resolved on the 21<sup>st</sup> of February to hand over to Augustus de Iturbide a million pesos and twenty square leagues of national land in Texas as a reward, the constituent Congress decreed a few months afterwards the total abolition for two years of the planting, elaboration and sale of the tobacco monopoly. The most careless measures were taken at the same time: in March, a discount of no less than 20 per 100, according to a drawn up tariff, was put on the salaries of the civil and military placemen and in August the military was exempt from that reduction, ordering that the already made discount should be refunded to them; in the same month of March the exaction of the forced loan of one million and a half of pesos, authorized the previous year, should cease, and in April «a gratuity and a voluntary loan were ordered to be opened in all the provinces by way of the provincial representatives and town corporations, to attend to the necessities of the army and other State urgencies;» in June a forced loan of six hundred thousand pesos was authorized to the Tribunals of Commerce of Mexico, Puebla and Veracruz, for the covering of which an impost of 2 per 100 on coined



silver and gold that came out of the inland custom-houses was enacted; properties and the secular revenues of the clergy were sold to the highest bidder and possession was taken of the property destined for the missions of the Philippines and charitable works which had to be attended to out of the country; and lastly, the decree of 25<sup>th</sup> of June, authorizing the government to negotiate abroad a loan from twenty five to thirty million pesos with the power of mortgaging the whole of the enacted revenues and those that may be enacted in future.

The year 1823 was characterized by the carrying out of the only issue of paper money, according to a law of the previous year, which our financial history, fortunately, registers. Mr. Romero refers to it in the following terms:

«As no compilation of documents and decisions issued in time of the imperial government of Augustus de Iturbide can be found, those authorizing the issue of the paper money and the others published during that epoch in the last months of the year 1822 and the first of the following year, cannot be named in this review.

»Thinking that in the first months of 1823 there would be a difficulty in covering the expenses, though the expenditures were level with the revenues in the course of the year, Anthony de Medina, Minister of Finance, proposed the issue of four million of paper money, the third part of which was admissible in payment of all impost. This indication was adopted and the bad auspices, under which this expedient was practised, have contributed to discredit it amongst us to such an extent, that it has not been made use of again in spite of the great urgencies that presented themselves in later periods.

»The fate of the administration of Augustus de Iturbide having been precipitated, the constituent Congress declared the actions of the imperial government void, and on the 11<sup>th</sup> of April 1823 ordered, that the making and issuing of paper money, and the obligation of receiving it in payment, as provided, should cease, ordering that the whole stock should be drawn out of circulation and to exchange it against Notes which the general Treasury would issue. The decree of 16<sup>th</sup> of May of the same year enacted, that the paper of the new issue should be received at the custom-houses up to the sixth part of the whole payment made. An other decree, of 6<sup>th</sup> of September of the same year disposed, that whilst an other mortgage fund for the paper money was being decreed, it would be necessary to pay with it the sixth part of the duties raised at the inland custom-houses.»

As to the rest, the ice-monopoly was abolished in the year we have just been referring to; the authorization, given the previous year, to contract a foreign loan, was nullified, in place of which an other one was given to negotiate two loans, one of eight and an other of twenty million pesos with the guarantee of all or part of the national revenues; a direct tax was decreed, which consisted of an annual quota equivalent to a three days' salary, profits or any other income of every one of the inhabitants of the nation; and as a prove of the great wants of the exchequer, one specially significative, has been left amongst us, i. e. the decree of 7<sup>th</sup> of June, in which it was ordered, that the Mint of Mexico «should work and improve the land and residues existing in it (which is supposed to contain a large quantity of silver), applying half of the value of the said lands to the wants of the exchequer.»

We arrive now in the year 1824, in which a political Constitution was given for the first time to the country, introducing the federal system.

The financial laws of this year may be divided into three groups: that of directing to give to the imposts and revenues the distribution which the change of political regimen exacted; that of organizing the federal treasury and that which had for its object to cover the always increasing wants and momentary exigencies. The most important of the laws in the last group was that authorizing the Government to receive in this town a sum that should not exceed a million and a half of pesos, empowering a person to make a loan in London for a sum equal to the one which should be delivered here immediately. In case that all the Bonds of the loans of eight and twenty millions, authorized the previous year, should have been sold, notes equivalent to the sum received in remittances would have to be bought, in order that the obligation of the Government should not exceed that sum.

With regard to the laws of distribution and classification of imposts and revenues, Mr. Romero says: «The federal form having been established, it was thought convenient to divide the public revenues, which then existed, between the federal government and those of the States, and with this object in view, the law of 4<sup>th</sup> of August 1824 was issued. By this law, the duties on importation and exportation, tobacco, gun-powder, salt-mines, the Post-Office, Lottery, national property and the revenues of the Territories were left to the federal exchequer, as well as an impost called international, which was then fixed, and consisted of the fifteenth per cent on the rates of the custom-house tariffs, increased to a fourth part, the tax of which had to substitute that of the excise. All the rest of the revenues were left to the States desirous to preserve them. As a substitution of these, an impost called *contingent* was created, which the States had to pay every month or every fortnight to the federal exchequer. The total sum of the contingent was \$ 3,136,875 yearly, proportionally distributed between all the States. The highest quota was the one assigned to the State of Mexico, amounting to \$ 975,000, and the least, which was that corresponding to the State of Coahuila, amounted to \$ 15,625. The decree of 21<sup>st</sup> of September 1824 disposed, that the receipts should be handed over to the nearest States on the 10<sup>th</sup> of October, and on the 1<sup>st</sup> of November to those farthest away.

»As the revenue on stamped paper had not been included in those reserved to the Federation, it belonged to the States wishing to preserve it. By virtue of this, the law of 19<sup>th</sup> of November 1824 fixed, that the stamped paper, then in existence, should be apportioned to the States that may ask for it, at the cost-price only, and that its use should continue in the Federal District and Territories, under the bases of the law of 9<sup>th</sup> of October 1823.»

With regard to the revenue on tobacco «the decree of 9<sup>th</sup> of February 1824, continues Mr. Romero,—resolved to apply to it the principles of the federative system, accepting a middle course between the monopoly and the principles of liberty which had been proclaimed by the law of 29<sup>th</sup> of October 1822. In that one it had been ordered, that the monopoly of the plantations on the lands where they were before allowed, should continue; that the general government would sell the leaf tobacco to the States, which, at their will and pleasure, could monopolize on their own account the manufacture of cigars or leave it free. By the decree of 26<sup>th</sup> of February of the same year, the State of Yucatán was exempted from the monopoly of the cultivation of tobacco, and the one of the 19<sup>th</sup> of November following disposed, that the general government would provide those States, who would solicit it and had not yet built their respective factories, with manufactured tobacco: the one of 22<sup>nd</sup> of the same November fixed, that the tobacco factory established in this city, should be kept for account of the exchequer, which had to supply the Capital and the Territories; and the one of 4<sup>th</sup> of December gave a new organization to the offices established for the administration of this revenue.



Anthony de Medina

»These dispositions, which were very soon afterwards cancelled by the law of 13<sup>th</sup> of May 1829, had the inconvenience of all the middle courses, that is, it neither preserved the revenue on tobacco as a productive revenue for the exchequer, nor did it give liberty to its free cultivation and elaboration. The natural consequence was, that it produced the inconveniences of the monopoly, without its advantages, that is to say, without leaving to the exchequer the profits which it formerly derived from it.»

We have already said, in speaking of the organization of the financial departments, how the law of 19<sup>th</sup> of November 1824 created the system of the administrative concentration in the hands of the Minister of the Department, the controlling-department forming a part of that system. We shall now add, that from that period dates the introduction of the fiscal or economic year, which commences on the 1<sup>st</sup> of July of a civil year and terminates on the following 30<sup>th</sup> of June; that this system was later on abolished by the law of 18<sup>th</sup> of April 1838 and reinstated on the 30<sup>th</sup> of June 1849 by a simple order from the Executive, existing with us since then, as the Constitution of 1857 expressly adopted it.

A very important law of the year 1824 was the one of the 28<sup>th</sup> of July, defining at length the debts for which the nation would be responsible; it did it with a wonderful liberality, for it accepted those contracted by the vice-regal government up to 17<sup>th</sup> of September 1810, and those from this date to the 27<sup>th</sup> of September 1821, as long as they were in favour of Mexicans and that those could prove, that the credits had not been gratuitous; that the debts proved to have been contracted for the benefit of the nation by the recognized governments in the law of 19<sup>th</sup> of the July 1823 on recompenses, and by the generals declared as well-deserving of the country, those contracted by the independent officers and by those of the liberating army from the plan of Iguala to the 28<sup>th</sup> of September 1821, as well as those which the Government posterior to the said plan might have contracted.

Which was the amount of these debts taken over by an exchequer that was far from covering its current expenses, ordering, nevertheless, that financial boards and offices should be opened for the liquidation of the same, and promising to pay them off as soon as possible, even almost from the very moment? Probably it will never be known: Anthony de Medina, Minister of Finance, computed them to be \$ 76,286,499, including \$ 9,765,799 for interest due, in his report of 3<sup>rd</sup> of September 1823; while his successor, Francis of Arrillaga, said on the following 28<sup>th</sup> of November, that only the sum of \$ 44,714,563 and 5 reals was paid off, though he declared that the important total sum of \$ 35,560,967, 2 reals and 3 grains «for remittances from Spain, which were never fulfilled, for allowances to other provinces, which were never made, for debts of doubtful recognizance and for those that ought to have been paid to the movement and administration of certain special branches,» ought not to be recognized. And yet Mr. Arrillaga said: «This debt is very small in comparison to the natural resources of the country!»

Under such auspices came the Federation to life, in the year 1825, and the preceding short and imperfect review, furnishes us already elements to discover the principle axes on which our exchequer turned round for many long years: the perpetual deficit, increasing continually the public debt, and the eagerness, also perpetual, to pay it off, decided upon through the exigencies of powerful and influential creditors, against whom our governments neither knew nor could resist, because they were the only ones who helped them out of their constant pecuniary troubles. And how was the public debt redeemed? In two ways equally lamentable, for both lessened the ordinary incomes, in which every government ought to find the elements for its very existence: the one of creating special funds, destined to that extinction of the debt, with a part of the public revenues, and the one of covering the most pressing pecuniary necessities, by obtaining advances on the future and nearest income of the imposts, receiving in part-payment of these advances, in a variable proportion, but always as ready cash, credit-notes against the nation. Although the first of these means was for many reasons worthy of being condemned, as not even the current expenses were covered, it was incomparably not so bad as the second, which constituted what we call amongst ourselves *government business* and was but the most outrageous and shameful premium paid. It generally was made in the following way: the money-lender, almost always a person with political influence or connections, offered to the Government a sum of money either in cash or at short sight, and



an other form was always that in bills on recognized credits, receiving in exchange, for the total amount, admissible orders, to the debit of some collecting office, commonly the maritime custom-houses, in payment of a part, more or less, of the duties which not only the money-lender, but any of his transferees might have to pay. The credit-notes could be bought in the market at a paltry price (4 to 5 per 100 of its nominal value) and there were even times in which they were not even handed in to the exchequer, but the obligation of doing so was substituted by that of paying in cash the amount of that miserable promissory note. Naturally, the elements of speculation varied according to the necessities of the exchequer: while these were greater, less was the part made over in money, that of credit-notes increased more and longer terms were granted to deliver them. When once the governments were put on this tract, which was only an inclined plain, the velocity of the descent was more and more marked till the moment arrived in which every door was shut; then the payment of the orders to the debit of the custom-houses was arbitrarily suspended, resulting in one of two things: either was that government pulled down by some *pronunciamiento*, or it managed to keep itself up by force of abuse and oppression; in both cases, and after a more or less tenacious fight with the jobbers, in which these almost always gained the day, the same or an other government returned to new *transactions*, in which the unpaid orders were *restituted* (this was the technical term) with a small percentage in cash and were at once again put in force or they entered into a new agreement for the whole of its amount, applying for its extinction some revenue of importance, as for instance a rich salt-mine, a valuable national property or some other such like thing. There was a case (being typical and occurring in the year 1833, we will just refer to it) in which four and an eighth part of the shares of the Tobacco Company, «which were highly valued,» were ceded to the firm Agüero, Gonzalez and Company for the sum of \$ 839.375 in the following manner:

In orders on the maritime custom-houses to be paid off at 80 per 100 in cash and	
20 per 100 in security on duties . . . . .	\$ 309.375
In cash, <i>half in silver and half in copper</i> . . . . .	» 30.000
TOTAL. . . . .	<u>\$ 339.375</u>

Those \$ 30.000 were employed,—according to the information given to the House by the minister Joseph M. Bocanegra,—in providing \$ 18.000 to the division that marched to the South at the orders of general Joseph Anthony Mejía, and \$ 10.000 to that of general Gabriel Valencia, destined to fight against those of the *pronunciamiento* of Zacapoaxtla. But things did not stop here, instead of the \$ 309.375 in custom-house orders, which would at least have unburdened the exchequer of a pressing debt, credit-notes issued previous to the Independency were admitted for the same value, by virtue of handing over \$ 36.000 in cash. To sum up, properties that probably were worth more than \$ 500.000, were sold for \$ 66.900, part of them in copper. These speculations, as it was natural, led rapidly to big fortunes when its originators were sharp enough and knew how to stop in time, or it carried them to ruin in the contrary case; a good example of it were the firms Mackintosh and Jecker, the memory of which has not been effaced as yet from our minds.

It is to be supposed, that there were not any persons wanting who freely denounced the path followed as misleading, amongst which John Joseph del Corral, first under-secretary at the Ministry of Finance and several times *chargé d'affaires* of the ministry, made himself noted by clamouring since 1834 against the jobbing in an interpretation which History has preserved as an example of the extremes to which governments may be led to when they are in want of resources, and in which he explicitly complains of the Vice-president of the Republic, Valentine Gomez Farias, for having confided the Ministry of Finance to Anthony Garay, who, in union with Anselm Zurutuza, was head of the cloud of jobbers, who devoured the corpse of the national treasury. In spite of all, the cancer spread, and in later years, in 1848, the same Mr. Corral expressed himself thus:

«In short: the Republic already experiences to-day the terrible consequences which I foreboded in 1834 in my quoted interpretation. The jobbing, created on its funds, had taken hold of the treasury and of



all kinds of credits, present and future; it exercised already a powerful influence and made the jobbers aspire to the absolute power in all the branches of public administration. It was common property to see, that not only were the first places at the maritime custom-houses given to their faithful servants, but even those of the last category, that is to say those of warders, and if any of them resisted their ordinances, he was quickly removed: they have, in this way, been the absolute masters of this revenue, the richest of the State. With such sure and positive advantages they have also been the principal smugglers, depriving the nation through smuggling of half of its income, the greater part of the other half being used for the extinction of its orders, proceeding from ruinous contracts, leaving a small part of it for distribution amongst the most favoured employees. Who has not seen its influence as well in the other branches? The general commands of some States were given to persons who served them in the persecution of citizens who, for want of other means, smuggled a tobacco leaf, when they had the monopoly, in order to guard their interests from one corner of the Republic to the other.

»Where has the greater part of the considerable sums, produced by the public revenues, ordinary and extraordinary, created since the Independency, gone to?, in the pockets of the jobbers; those of the millions of credit-notes previous to the Independency, the most sacred on account of its origin, where are they?, realized in the pockets of the jobbers; the posterior dues of employees in the departments of finance, justice, army and others, where have they gone to?, in the pockets of the jobbers at the miserable prices from one to six per cent; the secular revenues of the clergy, the religious properties of California, the public buildings, without excluding some hospital destined to help the ailing humanity: a higher class of college, where literary men met, who were an honour to the Republic, where are they?, they have been converted in properties of the jobbers; the best of private properties, principally the rural ones, who possesses them?, the jobbers; because the farmers, in not being able to find money at five or six per cent per annum, but at forty eight at the least, to which the jobbing had brought it, were unable to keep them; through whom has the nation incurred such an enormous debt?, through the jobbers.

»The best town and rural properties belonging to religious corporations were also left in their hands; for the reason that they were in want of cash to give to the Government when it asked them for some assistance, they gave their properties in mortgage to the jobbers to lend money on them. Why is the work-house, the hospitals and the Academy of Fine Arts not paid?, because the credit of jobbers is more privileged. Why is the pension of the retired and pensioned off employees, widows and orphans not paid?, because the jobbers come first and because it is necessary that their balances should be given to them so that they receive the total value in some contracts, or in the initiated bank which has to be established and managed by them (1).»

Thus was the influence the public debt had over the Budget: let us now see what happened to the debt itself, and that the opinion which we might give on our own account may not be judged exaggerated, we will let the Chancellor of the Exchequer, Emmanuel E. de Gorostiza, speak, who already in 1838 summed up the matter as follows:

«The interior public debt is composed of three very distinct parts, which deserve to be considered separately. The first is the one known to us in particular as *public credit*, and is that one, which, according to general opinion, has never to be paid; the one which, in having once received its legal character, would not be allowed to be redeemed by the Government, even if there were means to do so, without the express sanction of legislation. The second is the one created since the Independency, through the

(1) Mr. Corral alludes to a project of a national bank which several times was proposed to our governments, however never so seriously as in 1853, in which Anthony Escandon urged to establish it with a capital of six million pesos, four in cash and two in notes, for the purpose of undertaking the collecting and management of *almost all the public revenues* (custom-houses, excise on articles of consumption and duty on silver, direct taxes, tobacco and stamped paper) during twenty years, capable of being prorogued, in exchange of opening to the Government a credit of \$ 9,000,000 annually and the right of taking the half of the increase which the proceeds might have.—(See the Memorial of Mr. Romero of 1870, nums. 1.463 and the following.)

expenses which the exchequer has left to be covered, as well as the debts contracted through any other motive, which made the Government not only expeditiously but also morally obliged to satisfy; and the third is the one made up of all the incurred orders for payment through the contracted loans at interest with the speculators on the public treasury.

»It seems that the debts belonging to the first class have their limit well defined and nothing in special can be said of them; only that they distinguish themselves by the opinion in which they are taken, i. e. they have never to be paid off, because the claim of payment is not even admissible.

»The second class is the most confused, the most heterogeneous, the one which confounds itself with the former in its points of contact, and is the one which has given rise to numberless arbitrary decisions.

»After some time had passed, and the simple change of a minister, it was sufficient to condemn an order of payment to oblivion, however privileged it may have been or however certain its payment may have been taken, remitting the settlement of the debt at periods of ease. In the same way, and with the power of that lever, the salaries of the officials, worn out from misery and bent by the weight of their services as well as the debts contracted by simple civil transactions from the lower class, were thrown in the abyss of that so called *public credit*; the pay of the soldier and the income of the widow as well as a loan generously made with no other aim than that of aliviating the urgent needs of the exchequer; trust money of which possession was taken in urgencies, as well as a forced loan legally guaranteed.

»But do the debts considered as current payments run a better chance, i. e. those upon which no decree of prescription has been passed? Those only differ from the others by their respective period of maturity not having arrived as yet, but it will arrive sooner or later, and the current payment will be exclusive of all past tense.

»The third class is the most privileged, for as the Government was reduced to having recourse to the interior loan, it has necessarily to respect the engagements contracted, naturally timorous of the consequences which would give a contrary result, even if it had nothing to save of its moral conduct, respecting its honour, and to the good faith with which it granted its guarantees in entering into contracts. Thus, however onerous that debt may be, however much may have been employed in its extinction, sometimes almost all the resources of the exchequer, neither legislation nor the Government have ever transferred it to the public credit, but it always had the reputation of current payment, in spite of the dictated arrangements from time to time, without any other effect than the variation of guarantees and a greater delay in its redemption.»

Mr. Gorostiza goes on speaking of the state in which the public credit was kept and of the manner to found it on a solid basis:



Joseph Maria Bocanegra

«In leaving for afterwards some other considerations referring to this last part of the debt, let us see the two first ones how they formed one mass as an ultimate result, since both had to run the same chance; and in confining them for the present to that which has to be understood under *public credit*, I can assure Congress, that this branch is the most obscure and the most neglected of all those which have to occupy the attention of legislation and of the Government and which will necessarily remain in that state as long as it is not reduced to a system, commencing with the creation of an office exclusively dedicated to estimate the national debt, for up to now its amount is unknown, nor is it easy to find it out, considering that the so called account-keeping of the public credit, limited to the objects of its institution, has done nothing else but to certify the credits presented and which legally were in want of this requirement in order that they may be recognized as such.

»The result of this situation is, that the Government never remembers what it is owing, only when those creditors, who have not yet fallen in the public debt, hostile it; that all the debts in not being classified, are made to run the same chance, without taking their nature and the circumstances in consideration; that the Government itself has a free and easy recourse to remit the settlement of any credit at a most favourable period, perhaps without any other foundation than its very antiquity; that often credits are reputed as privileged which least ought to be so, and finally, it is never thought of finding means to pay off the debt.

»Of all this, and of the general opinion existing of the so called *public credit*, it also follows, that, however large this may be, it represents nothing else but an equivalency ruined almost entirely by the Government, considering that of whatever shape a document was against the exchequer, it was put out of all commercial circulation, losing, in consequence, the respect given to money or to any other commercial paper. How many families, possessors of documents, nominally valuable of exorbitant sums, find themselves in misery, without being able to obtain a single loaf of bread with all their imaginary fortune! If any credit-notes against the nation could serve as a material for commercial transactions, the number of buyers is so limited and so unique its destination for which they are bought, that there is hardly a document, of those the payment of which is not current, which would reach 25 per 100 of the value it represents, while the most part of them stand at zero, and the rest form the scale of intermediate values of which those nearing the inferior limit are more plentiful.

»Yet an other consequence follows the disorder in which the *public credit* finds itself, and that is, that very few are those documents which by themselves alone prove their admissibility by the Government, when this itself has to take measures on every one of them, when it depends upon admitting or examining it; a motive that also works in lowering the estimated value of all.

»For the executive it is unquestionable, that the nations do not expose their credit for having pledged it, but for the bad use they make of it; and as to the bad direction they give it, they paralyze the movement of public wealth, it is then when the governments lose their credit and find themselves without any resources; in ruining private fortunes, they ruin themselves, and instead of making citizens happy, they multiply the number of the unfortunate ones. Amongst many instances which could be mentioned in proof of that truth, it would be sufficient to refer to that shown by England, whose debt, which in 1714 was estimated to be £ 53,681,076, increased in 1814 to £ 778,478,521 and rose already in 1822 to £ 827,984,498, equivalent to \$ 4 139,922,490, without having this frightful amount exhausted the resources of that government neither impoverished the nation.

»If it is certain that a punctually paid interest represents really a capital, it is also certain that, which nothing produces, nothing represents and in nothing is it valued, as it happens with the documents of our *public credit*; and it is also evident, that if it were to bear interest, punctually paid, the debt, which to-day is paralyzed, or rather dead, would revive in circulation, if only with a part of its value, which would gradually rise, and in this manner a fictitious wealth would be created, just as the enormous one which circulates in all regions of the civilized world, in order to partly replace the physical one which is already getting scarce, amongst other reasons, on account of the continuous exportation of our



passive commerce, thanks to which, we shall soon see all our circulation paralyzed and the social body without movement.

»The Government, upon all these ideas, tried to take the initiative of that mentioned by me in the article about the Bank, the funds of which could be used for the extinction of the public credit, with the residue left after paying the interest of part of the debt, which would be consolidated by means of a restitution from the creditors of the exchequer.»

In referring to the third class of credits, which formed the public debt, i. e. to orders emanating from contracts of advances on duties, Mr. Gorostiza says:

«The loans on interest, which form the third class of the interior credit, have their particular point of view on account of their direct influence on the Government, the state of the exchequer and the movement of public wealth, keeping the former in disgraceful guardianship, absorbing the funds of the second and taking out of the vital circulation large capitals, which would be destined for industrial and commercial enterprises, if they were not destined to the most seductive speculation in the imagination of man.»

Now let us see a little of what passed with regard to the exterior debt.

It will be remembered, that in referring to the financial events occurring in 1823, we spoke of the sanction given to contract two loans in London, one of eight and the other of twenty million pesos, and this in order to obtain in Mexico an advance of one million and a half. These authorizations were the origin of that which has been called the *English debt*, a phantom, whose sorrowful shadow has reached almost as far as to our present days, not only on our treasury, but also on our political path, and which, joined to the famous *conventions*, nearly finished with the Mexican nationality, certainly not through any fault of the nation, which before any other recognized in Europe our independency, but on account of considerations, which to a great extent, if not in all, are imputable to the inexperience and want of foresight of our first governments. This confession is sad and painful, but the exigencies of the truth have to get it out of the patriotism of any Mexican, who seriously looks over the pages of our history, as we shall presently see.

As bad, and in spite of the extremely unstable political situation in the interior of the Republic, both loans could be negotiated, in February and August of 1824, a small part of its proceeds serving to pay off the most pressing wants of the exchequer in that year, and perhaps in the two following years of 1825 and 1826. We give here, according to Mr. Romero, the conditions and results of them:

«This unfortunate matter was carried out with great instability and inexperience, but as the data of what occurred, and were then presented, are so incomplete, as it only bore up to the transactions of the Treasury of those years, it is not possible to form an idea of it but in a very imperfect manner. The complication of this matter came to such a pitch, that on the 12<sup>th</sup> of February of 1842 it was necessary to commission Lucas Alamán to frame the respective liquidation, and the work which he undertook and presented to the Government on the 14<sup>th</sup> of May of the same year, is the first intelligible report made of the manner in which those loans were negotiated, of the proceeds obtained from them, the use made of them and the loss suffered by the public treasury through them.

»In virtue of the law of 1<sup>st</sup> of May 1823, the Government authorized Francis de Borja Migoni to negotiate a loan of \$ 8,000,000 in London. Migoni made a contract with the firm B. A. Goldschmidt and Company, on the 7<sup>th</sup> of February 1824, by which the latter bought at 50 per 100 a loan of \$ 16,000,000 with interest at the rate of 5 per 100 per annum, accruing from the 1<sup>st</sup> of October 1823, payable in advance every three months.

»The Executive being authorized by the law of 27<sup>th</sup> of August 1823 to negotiate a loan of \$ 20,000,000, he made a contract in this Capital on the 25<sup>th</sup> of August 1824 with Messrs. Manning and Marshall, agents for the firm Barclay, Herring, Richards and Company of London, for the value of an other \$ 16,000,000. In February 1825 the contracting firm negotiated the Bonds at 86  $\frac{3}{4}$  per 100. These Bonds bore interest at the rate of 6 per 100 per annum, commencing from the 1<sup>st</sup> of January 1825.

»It is interesting to know the sums received by the national exchequer, in virtue of these loans.



The most exact way of reporting it, is to copy some fragments from a communication made by Mr. Alamán to the Department of Finance on the 14<sup>th</sup> of May 1842, at the time of remitting the liquidation which had been committed to his charge:

»This debt has been created by the two loans contracted with the firms B. A. Goldschmidt and Company, and Barclay, Herring, Richardson and Company; the first one in London by Mr. Francis de Borja Migoni, with powers conferred upon him to that effect; and the second, direct by the Government with the agents of that firm in this Capital. Some other previous transactions were included in these two, as out of the proceeds of these, the sums received as a result of the former had been paid, as exposed in the statement number 2.

»It will be seen by number 1, that the placing of the two loans, amounting together to £ 6.400.000, produced the sum of £ 4.376.544.6.10 (\$ 21.882.721, 5 reals, 8 grains), just as number 2 shows, that the Government only received in cash the amount of £ 2.751.482.1.10 (\$ 13.757.410, 3 reals, 8 grains) from that sum, from which amount the £ 63.000 (\$ 315.000) lent to the government of Columbia has still to be deducted, as well as the £ 448.908.8.3 (2.244.542, 0 reals, 6 grains) which the firm Barclay still had when it failed; so that the amount really received in cash by the Government, was only £ 2.239.573.13.7 (\$ 11.197.868, 3 reals, 2 grains), the debt having been reduced, by means of the redemption made with the proceeds of the two aforesaid loans, to the amount of £ 5.281.400 (\$ 26.407.000), and the payment of the interest up to the 1<sup>st</sup> of July 1826 with the addition of \$ 283.800 which the Government remitted.

»The motive of such a considerable loss, with regard to the debt incurred, principally consisted of the onerous conditions on which the loan was made by the firm Goldschmidt, who bought it at 55, and with the commission of 5 per 100, was reduced by half, besides having been arranged, that the interests should commence before any instalment had been paid, and that they should be paid in full from thence, though the instalments were gradual and successively. It was also arranged, that in case of any other loan should have been made without they having any knowledge of it, the fourth part of the new loan should be destined to the redemption of the one made by the firm Goldschmidt, and as unfortunately at that time there was such a hurry to enter into that class of transactions, making new contracts in Mexico without even waiting to know the result of the authorizations which had been given to make them in London, it happened, that the fourth part of the loan made in Mexico with the agents of the firm Barclay, had to be used for the purchase of Goldschmidt's Bonds. Barclay's loan was sold to the very firm of Goldschmidt at 86  $\frac{3}{4}$ , which had bought the first one at 50 per 100, the Bonds of which were then quoted in the market from 75 to 79, so that the Government sold every hundred pesos of the second loan for 86  $\frac{3}{4}$  to the firm Goldschmidt in order to buy at 75 those of the first loan, which it had sold to the same firm at 50; the serious loss, resulting from this double transaction, will easily be perceived.

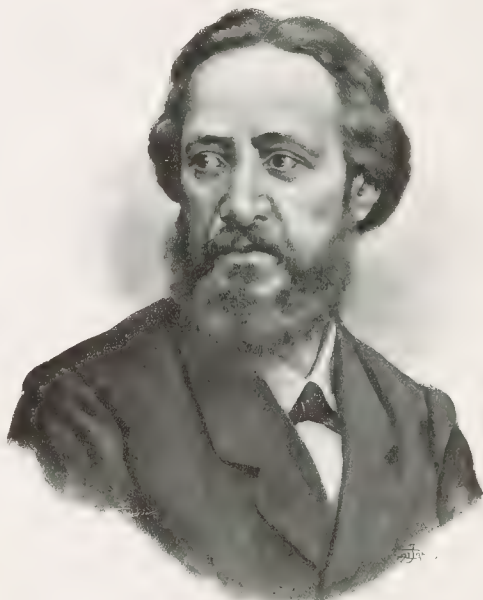
»In the £ 2.239.573.13.7 (\$ 11.197.868, 3 reals, 2 grains), which are represented as money received by the Government, is not only included that which was drawn to the debit of the money-lenders, or which these remitted in specie, but also the contracts made with Bartholomew Vigors Richards for armaments, ships and equipments, very painful contracts, as shown in the statement number 2, by which it will be seen, that seventy thousand muskets at ten pesos a piece were paid for in London in cash, and in the same way the rest of the armament, the cost of the ships bought, and the ammunitions sent for, were in equal proportion, all of which, joined to the commission paid to the firm Barclay, to the sacrifices made for the advances received here, and in the transactions made with the firm Staples, paid with the proceeds of the loan, made the transaction of the loans one of the most ruinous, in which, unfortunately, the Republic has been engaged in, without any other excuse but the one of inexperience in which everything was carried on.

»The want of taking any steps to secure the funds, proceeding from the second loan still remaining with the firm Barclay, as it had been done with the £ 200.000 (\$ 1.000.000) of the first one contracted with Goldschmidt, which were invested in Exchequer Bills, deposited with the necessary precautionary measures, as long as the Government did not dispose of them, resulting from this want of precaution the

serious loss suffered by the failure of the already mentioned firm Barclay, has also to be attributed to this state of affairs.»

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The most characteristic calamities of our Treasury have now been described, though only in an imperfect review. With the great evils, of which they were made up, many others had to coexist and coexisted. Imposts and empiric taxes, vexations even to excess; an unjustified increase of expenses; unfitness and corruption of employees and functionaries; demoralization of all classes of society, through smuggling and fraud on a large scale; violent means taken, from the forced loan to the taking over of the conveyance of money, which the unfortunate commerce confided to the care of the public authority; frequent change of the form of government, passing from federation to centralism and vice-versa, with intense confusion and the turning upside down of impost, accounts and offices; the renting of the revenue on tobacco and mints on ruinous terms, with the prohibition of altering the laws which kept up that monopoly and which governed the production and exportation of precious metals; the establishing of the *Mining Bank*; restoration of monopolies abolished last year; prohibitions; multiplicity of custom-house duties; excises; internal importation duties and other oppressive impost of which we already occupied ourselves in speaking of commerce; excessive issue of copper money, by way of a fiscal resource, which disturbed everything and caused real confusion; dilapidation of the salt mines and national property; absurd issues of bonds which no one took and which, sold at paltry prices, incessantly increased the public debt: in short, whatever misfortune may befall a nation, befell Mexico, at the same time the victim of political and social anarchy in all its forms and with all its indignities, inclusive the loss of half of the territory.



Emmanuel Payno

There were now and then honest governors and Finance Ministers who tried their best to get order out of that veritable chaos. General Marianus Arista exerted himself in the formation of a proper budget and reduced the army expenses to a little more than three million pesos, which had always amounted to about ten. Joseph Ignatius Esteva claimed, that with the guarantee of the properties belonging to the clergy, the putting in order of the national treasury could be radically approached. Emmanuel Payno made a titanic effort, though unfortunately founded on erroneous principles, for the settlement of the public debt, unifying it into one fund. All was useless, all in vain, all unproductive, perhaps only complicating more and more that inextricable labyrinth!

Why continue, therefore, saddening the heart of the reader, with the narration, which might be interminable, of our financial disasters? In an uninterrupted line, it is made up with all the statements of

all the Finance Ministers at the time, from which we will take out two pages, so that we may transcribe them here, and in which Lewis de la Rosa in 1845 and Marianus Riva Palacio in 1848, synthesize ingeniously some of the then prevailing evils.

The first one said:

«I do not know, whether one can really say that there is a system in the Treasury in Mexico, and neither can I tell if a firm basis can be fixed on which such a system is established. In seeing, that almost all that is, or can be public wealth, is burdened with imposts, and in spite of which, the taxes yield but a very small income compared with the value of public wealth, one might almost believe, that the financial system adopted in our country, consisted only in increasing the revenues of the exchequer, rather multiplying the taxes, than to make every one of them to give up all the proceeds which it would yield under a well systematized administration. There is no doubt, that we have had men endowed with all the necessary talent and instruction to systematize the Treasury; but two great obstacles have opposed themselves to the efforts with which those men had tried to conduct and regulate the public treasury: the anarchy, which so frequently has broken our country to pieces, and the confusion of ideas in matters of political economy, which also has divided men into sects and parties, have constantly disorganized the public revenues, and has made the Treasury a chaos, in the confusion of which only the following principles can be adhered to: to preserve and not to destroy that which now exists; to preserve and to improve the revenues at present fixed as far as it is possible; to preserve those elements, to make them every day more productive and to wait for more favourable and propitious circumstances in which talent may pick up those very elements, now dispersed, so as to co-ordinate them and to frame from them the system of the Treasury, more adequate to the necessities of the country and its civilization and the most beneficial to all classes of the State. Such are the principles which I proposed to myself to follow in taking charge of the ministry. The glory of having realized fine theories will not be mine, but I shall neither suffer pain and remorse of having destroyed the scanty resources of the exchequer through an indiscreet spirit of innovation and reform.

»I do not believe that ever a Treasury system can be fixed on, nor that it is possible to balance the revenues and expenditures of the exchequer, in a country where every head of a political party, in proclaiming a new revolution, may take possession of the Public Treasury as a prize, and distribute it amongst his partisans as if it were his inheritance or patrimony. At the conclusion of every civil war, the nation had to pay the sums which the insurgents wasted in order to attack the Government, and those spent by the Government to maintain its power; the very war of Independence, as just and glorious it was, left the nation under the obligation of paying the debts which the colonial government contracted to maintain its dominion, and those contracted by the heads of each town to conquer independency. Every civil war has also left to the country a new encumbrance of employments, rewards and compensations, which have greatly increased the expenses of the exchequer. In every civil war, new taxes were levied by the heads or abolished those that had already existed; the methods of administration were varied; they exempted the payment of some imposts, or they oppressed the citizens with sequestrations and expropriations of every kind, which impoverished them. In every civil war, a certain number of functionaries, who had the public revenues in their charge, have either taken part in the revolutions or have promoted them, or perhaps have paid for them out of the very money belonging to the nation, with the sole purpose of wasting the funds of the exchequer, or to cover the state of ruin of which they made themselves already responsible. The powerful smugglers stirred up many times a revolution; they devastated and imbrued the country with a new civil war, for the sole purpose of gaining more percentage on their goods. During the passionate discussions, that always precede a civil war in our country, the press combated all the established taxes as ruinous so as to discredit them and to deprive the Government in this way of the resources, without which it cannot exist. Thus it is, that through the result of the civil war, all system, and all administrative order in our Treasury has been lost; thus it was, how the citizens have been made to forget the duty of contributing towards the public expenses, infusing to



the most numerous class of society such erroneous ideas as that to believe, that one can live in society and enjoy all the benefices of civilization without contributing to the expenses, which every government and every administration make them necessary.

»The confusion of ideas on matters of political economy has not been less lamentable to the Republic. Without mentioning, that economy is a practical science, which has as its basis facts and statistical dates rather than theories, and which can only be applied in altering its principles, always general, by the data which experience has taught, it has been attempted to change the tributary system with a stroke of the pen; and without even counting on the numerous resources which a prolific imagination had conceived, the most positive resources and the revenues, which had till then been most productive, have unexpectedly been disposed of. Every partisan of a new system of economical policy, has, in his writings, attacked a class of taxes as ruinous to the country, the result of which has been, that all of them have alternately been combated, that all have lost their prestige, and there is not an impost, however just and moderate it may be, which the people do not resist to pay, nor is there a contribution which is not defrauded as long as this can be done with impunity. Few are the classes of society that have a conscience of duty on this point, which was formerly the strongest support of the government. One economist says to the Republic: the revenue on tobacco cannot subsist, because it is a monopoly; then another one says: the excises ought to cease to exist, because they are an obstacle to the interior circulation of riches; another one claims, that the tax on articles of produce should be suppressed because the consumer is prejudiced by it; another one, that the duties of importation should be reduced to a minimum, because they paralyze foreign commerce and raise the price of goods; again another one combats the direct taxes, because the country is not yet sufficiently civilized to enact them, as we have not any perfect statistics as yet. It is thought of abolishing the duties levied on gold and silver in bullion, because they are almost the only valuable products of our country and the exportation of these riches ought not to be hindered... And the evil did not consist in that all those opinions should have been discussed by means of the press, but that the legislators adopted and sanctioned them alternatively as laws, rejecting and abolishing them soon afterwards in order to form new systems, perhaps also founded on illusions. We have thus seen, that the principal revenues of our country have passed thousands of vicissitudes: they have been let on lease or remitted for account of the exchequer, some of the branches were monopolized or liberated from it; some of the imposts were abolished and shortly afterwards restored. The offices of the Treasury have suffered incessant alterations in its organization, and every alteration has left to the exchequer the burden of maintaining newly dismissed government officials; all administrative methods have been disturbed and reversed; the young people, devoted to the study of the Treasury, have not been able to make any progress in a study in which neither a basis nor principle could be found; the account-keeping has been complicated in all its branches, unhinging, finally, the system.

»The laws on Finances, royal letters patents, decrees, ordinances and by-laws referring to these matters, are counted by thousands, and all these dispositions are dispersed or mixed with laws of other branches in general complements of legislation. No complete and special complement of laws referring to the Treasury has as yet been framed, in which all those laws may be classified, co-ordinated and referred to each other, suppressing in them those dispositions that may have been abolished or are impracticable. This code of the Treasury, so useful for the study of that science and which would so much help to facilitate the dispatching of matters relating to that branch, could not be framed till we have a certainty, that those radical reforms, which substantially not only alter a branch of the Treasury but its whole system, cease to exist for some time.

»It is now time that a thought should be given to the stability of the tributary system of the nation, and that it should be gradually corrected and perfected, without destroying its basis, till experience should allow it to be substituted for a more beneficial one. The want of new laws for arranging the Treasury is not so necessary as that of taking energetic measures to make those actually in force to be observed.



The unsteadiness and inobservance of those laws are, in my way of thinking, the causes that have led the Treasury to the backward state it finds itself to-day.»

Mr. Riva Palacio said in his turn:

«If one examines the course followed by the administration of the Treasury of the Republic for some time back, it will be seen, that it has not adhered to the principles which ought to rule, the same in a public administration as in private property. The expenses ought to have been fixed in proportion to the funds relied upon to cover them, to diminish the former for the sake of prudent economies, and above all for the management of all the offices, as much those of collecting as those of distribution, before levying any new taxes and tributes; the current expenses ought to have been attended to, included in the year's budget with the ordinary receipts, before paying any internal debts, and to attend to the already incurred obligations without contracting new ones, leaving the resources of the credit, which would have been increased and consolidated through this prudent system, till extraordinary circumstances would have obliged to repair to extraordinary resources. In one word, the plan of the financial administration ought to have been reduced to the following principles: on what can the Mexican Republic rely?, how much does she owe?, how much do her annual expenses come to?

»As if one had tried to follow deliberately an opposite system to the one I have just been tracing, or better said, to the one which nature of things itself has traced, exactly the contrary to that which it ought to have done has been done. The expenses have been increased without taking into consideration the resources at the disposal of meeting them; the offices and officials have been multiplied, without sufficiently examining the necessity of the former nor to watch over the good services rendered by the latter; salaries have been paid to those who perhaps least were in want of them, without paying the current salaries of all the officials, or at least to divide equally the existing funds; large sums of the extraordinary resources have been spent on the former, under circumstances in which the nation needed them for its more pressing wants; the revenues, which have recently been raised at the cost of great sacrifices and neglected in their administration, have to a great extent become wasted through the frequent failures of the administrators, or spent in payments of salaries to supernumeraries, to whom situations have been given in other branches of recent and useless creation, who never did any service, enjoying these salaries without any benefit whatever to the nation; the credit, which ought to have been considered as an extraordinary resource, has come to be the ordinary receipt of the Government, and in sacrificing the monthly revenues, and even those of the coming years, to get out of the difficulty of to-day, enriching but few, has ruined all, and as the resources lessen each time more and more, transactions on credit have been every day more onerous, even so far as to be unable to pay them, whence the orders for the suspension of payments, the creation of funds, the interest on which can neither be paid, have originated, and finally, the impossibility of making those same transactions, not even under the most ruinous conditions.»

With regard to the public debt, he added the following:

«The Republic being burdened with such an enormous debt, the payment of the interest on the exterior and on the mentioned funds alone, take the greater part of the proceeds of the maritime custom-houses and the total of some other revenues. Several of these, which at other times have been productive, are destined for special objects, for the payment of salaries of some corporations, since the impossibility of covering all, every one of them, according to the favour it enjoyed, the power it used or preferential inclination of the minister, who at that time made use of the extraordinary faculties, has tried to secure his own, making that of the others more difficult, conformably to the resources which were applied only to some but which ought to have been distributed amongst all. For this reason, the non-paid officials have thought to be authorized to neglect their obligations, and in doing so, it served as a pretext to do the same to those in the offices where that motive did not exist. As the official functions at the offices have been less exact, the number of these, that of the officials and their distributions have been increased; this, and to contract larger debts through other new contracts, or through modifications, has almost been the sole use made of the extraordinary faculties given to the Government concerning the Treasury, ter-

minating, from all this, in an immense debt, no credit, a chaos in the administration, a great number of persons making their subsistence out of the salaries, reduced to misery on account of their not being paid, and when the funds, proceeding from the indemnification for the loss of territory, to which so many evils have led, came in the hands of the Government, they made themselves more exacting, wishing that this resource, which the misfortunes of the war have procured, and the only one with which to commence organizing the administration in some way, should be spent to help them.

»Such a state of things is not the result of the war nor the special work of any political party; all have contributed towards it, because, in a certain number of years, all have had the management of it in their hands and the evil was brought to the highest degree before we suffered the adversity of the war, the only fact which came to lay the situation of the Republic more open and made the feeling popular, that it was no good to continue in the same way.»

Nevertheless, it not only continued in the same way, but it turned to be more tortuous and the obstacles multiplied themselves with new misfortunes, about one of them we cannot do less than allude to it in a few words, on account of the disastrous influence it had on the fate of the Republic.

We refer to the famous *diplomatic conventions*. This new error, always the fruit of our poverty, had its origin under the sixth administration of the calamitous Anthony Lopez de Santa Anna in 1847, in entering into a formal agreement between the representative of Spain, Salvador Bermudez de Castro, and the minister of foreign affairs, Joseph Raymond Pacheco and John Rondero, minister of Finance, that the payment of the claims of Spanish subjects should be proceeded with, that for the liquidation of the debt, a special fund should be consigned to the service of the interests and redemption, created of a part of the duties collected at the maritime and frontier custom-houses. This convention, though it had the form of a treaty and never submitted to Congress, was renewed in 1851 and opened the way for certain creditors, as for instance the celebrated Father Moran, as well as in general, the English and French subjects, to put themselves under the protection of their ministers, forcing out of the weakness and difficulties of our Government equal covenants in respect to their credits against the exchequer.

The frauds committed in executing those conventions, either in entering credits acquired at an exorbitant price as from foreign subjects, or in admitting doubtful and even illegitimate credits, were at that time a real stumbling-stone, which did not impede, when these international covenants later on were not carried out, as it could not be expected to be otherwise, that the European Governments concerned in it sent us their armies. As known, the Spanish and English Governments called theirs back, but the French army remained here, apparently as an armed intervention, causing us endless evils and misfortunes and implanting for a short time the ephemeral empire which finished with the tragedy of Querétaro.

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We cannot end these disordered pages better than to present to the reader the sketch of the defectiveness of the Budgets of those ominous times, an eloquent summary of the whirlpool into which fell the public wealth, our vitality and even our integrity as a nation; but before we do so, we must refer to some episodes, the knowledge of which is indispensable in order to understand the situation in which the National Treasury found itself at the time of the restoration of the Republic in 1867.

One of those episodes refers to the effort made in 1850 and 1851, and directed by Emmanuel Payno, for the consolidation of our interior and exterior public debt.

The plan could not be more patriotic and rested substantially on the following bases:

1<sup>st</sup> A part of the indemnity, which the United-States have paid us for the despoliation of half of our territory, should be given up to those Bondholders of the exterior and interior debt, who had a preferential place through pre-existing laws and covenants.

2<sup>nd</sup> In exchange of which, important concessions in the shape of acquittances, or renunciations of their irritating and impossible privileges, should be demanded from these creditors.

3<sup>rd</sup> All the credits which formed the interior debt, and which with the time had been subdivided

in numerous categories, should be unified in Bonds of one class alone, with interest at 3 per 100 per annum.

4<sup>th</sup> With the allotment of a percentage of the proceeds of the maritime and frontier custom-houses, two special funds for the service of the interest and redemption should be constituted: the one for the exterior and the other for the interior debt.

5<sup>th</sup> This plan would have to be carried out by legislative dispositions of a general application and not by private arrangements, putting off for ten years afterwards the credits which do not accept this settlement.

In virtue of this plan, the law of 14<sup>th</sup> of October 1850 was enacted, which authorizes the Executive to hand over to the creditors of the debt contracted in London, a warrant on the United-States treasury of two million and a half of pesos for account of the indemnity, always understood, that the creditors consent in reducing the interest of the debt to 3 per 100 on the capital of 10,241,650 pounds sterling, and that the overdue interest up to the approbation of the arrangement should be taken as paid. By this same law, the Executive was authorized to assign 25 per 100 of the import duties at all the maritime and frontier custom-houses, 75 per 100 of those on exportation at those on the Pacific and 5 per 100 at those on the Gulf, for the payment of the new interest.

The antecedents and the splendid practical result of this law, which, according to Mr. Payno, saved the nation \$ 25,789,970, are referred to in the following manner by its eminent author:

«In July 1850, the Congress assembled in extraordinary sessions and the first business that occupied its attention, was the settlement of the foreign debt. I had then ceased to belong to the commission of public credit but occupied the place of Minister of Finance. Counting on the support of my companions of the commission, the modifications, which the state of the public treasury and the defalcation of the funds of the indemnity required, were made; and the House of Representatives, wishing to do that which was good, approved the suggestion in a few days, passing it to the Senate unanimously. There I had to countenance the discussion for many days and to read a number of antecedents and pamphlets to convince some of the Senators, that only of the legitimate debt recognized on the London Stock-Exchange should be dealt with in the settlement and on no account to include the £ 200,000 of Bonds signed by the late Doctor Joseph M. Lewis Mora, nor the deferred Bonds of the firm Lizardi, because that would have been the same as to acknowledge those transactions as good and legitimate, which Mr. Murphy had rightly proved to be illegal and ruinous. As it was to be expected, the good sense prevailed, and the result of the deliberation of the House of Representatives having been approved, the decree of the 14<sup>th</sup> of October was enacted. In the very same afternoon, on which the discussion on this serious matter was ended, arrived Francis Falconet in this Capital, being the new commissioner of the Bondholders, who tried to make other arrangements with the Government, soliciting much larger concessions than those contained by the decree. I answered Mr. Falconet's remarks with the attention and policy due to all those who, for some motive, direct themselves to the Government, but I did not accede to his pretensions and sent the agreement to London, ordering Mr. Pacio to present it at a general meeting of Bondholders, either for its acceptance or refusal, though Mr. Falconet did not approve of it, who, through some circumstances presenting itself against his will, could not then lend his services to the Bondholders, in spite of his good intentions.

»The decree of the 14<sup>th</sup> of October was accepted by the Bondholders in London in December, by which the Nation liquidated with two million and a half of pesos the five million and a half it owed for back interest and in permanently reducing the interest to 3 per 100, it produced an annual saving of a million pesos in the expenditures, or which comes to the same, it diminished the debt by 40 per 100, furnishing a sum of more than twenty million pesos to the benefit of the exchequer. By whatever method the arithmetical operation is made, it remains a fact, that this is one of the most profitable transactions made by the nation since independency was achieved.

»This arrangement is the honorable title which my enemies have not, nor ever will be able to take from me. The pompous words with which calumny and slander are made agreeable, cannot destroy the

VOL. II.—PART EIGHT

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History of the public treasury

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**Joseph Ives Limantour**

SECRETARY OF THE TREASURY



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eternal truth of arithmetic, nor take away from a public functionary the consolation of having done the good neither to a person nor to a political party but to the nation by which he was sometimes put in a high and distinguished position.»

«With regard to the interior debt, the law of the 30<sup>th</sup> of November 1850 consolidated in one common fund the whole debt contracted up to then, making over the 20 per 100 of the proceeds of the maritime and frontier custom-house receipts for the payment of the interest and redemption of the capital. The new Stock would bear interest at the rate of 3 per 100 per annum and \$ 300,000 would annually be destined for the redemption of the capital. If the assigned proceeds were more than sufficient to cover the interest and redemption, the interest would be increased by a half per cent every fifth year up to 5 per 100, which would be the maxim. All the Bonds of the interior debt would have to be exchanged for new ones, and in order to do this, the creditors would have to present their Bonds within six months if residing in the Republic and within a year if residing abroad. Those creditors who had not made an arrangement with the Government by the day of publishing the law, would enjoy a term of ninety days to make it, and if they do not attend to it, in case of their claims belonging to those classified in the law and do not oppose its basis, it would be understood that they overlooked them; but if they expressly refuse to admit the said basis, their claims against capital and interest would be put off for ten years and after this term, the capital and interest would be subject to those mentioned in the said law. The claims not classified would remain deferred under the same terms. This law mentioned the claims, the holders of which made or would make an arrangement on the basis of making an acquittance in capital and interest, receiving in payment part in cash and part in Bonds of the new issue.

Mr. Romero says, that this law was proposed from a patriotic point of view, praiseworthy of order and morality, the realization of which would have resulted, amongst other advantages, in the very important one of restoring to the Republic its credit; but unfortunately this measure, conceived with the best of intentions, only helped to increase the difficulties of the situation, almost destroying that which was then left of the national credit. The principal causes of this deplorable result were the following:

I. For not having been able to dispose of sufficient funds to satisfy the rights of the various creditors in an equitable manner, without compelling them to accept conditions which almost were imposed upon them and which amounted to considerable obligations.

II. For having thought, that the amount of the interior debt was much less than it really was, and this for the want of a Balance sheet and sufficient data, and that with the two million and a half of the amount of indemnity from the United States, the amounts which the respective creditors would have had to accept in settlement, could have been paid, as the minimum of the funds necessary for this object was over six million pesos.

III. For not being able to dispose of any amount in cash to make the payments stipulated with the creditors, on account of having made use of the amount of the indemnity from the United States to cover the deficit of the ordinary administrative expenses.

IV. For having contracted the solemn promise to pay a very low interest on the amounts which were included in the conversion and for having set apart a sum for the redemption of the capital without having a security to carry out the contracted arbitration as it was not fulfilled.

V. For not having attained the principal object of the law, which was to establish a sole fund with a unique interest on the public debt, supposing that different arrangements were made with distinct creditors, fixing special and privileged funds for them.

The indeclinable result of these facts was, that precisely the law, which ought to have restored the national credit, gave it the death blow and increased the disorder and chaos. Mr. Payno blamed his successor in the Ministry, Joseph Ignatius Esteva, for this disaster, who defended himself with irresistible reasons; but the serene tribunal of history, recognizing Mr. Payno's propositions as the soundest, has already given its verdict against his argument, for neither having well measured the magnitude of the debt nor the national resources with which it was hoped to make the arrangement.



The consequence of this failure was, that things went on as bad or worse than before: after Mr. Arista came the dictatorships of John B. Cevallos and Anthony Lopez de Santa Anna, the triumph of the liberal revolution of Ayutla, the promulgation of the Constitution of 1857, the *Coup d'État* of general Comonfort; the three years' war, during which the laws of Reform, which so deeply changed the leading principles of this nation, were promulgated; the triumph of the worthy Juarez towards the end of 1860; the coalition of England, Spain and France to claim from us by armed intervention the carrying out of the wretched *conventions*; the war of intervention and finally the empire of Maximilian. All from the 6<sup>th</sup> of January 1853, on which day the honest Arista left the government to die in the bitterness of proscription, to the 21<sup>st</sup> of June 1867, on which day a young commander, general Porphyrius Diaz, occupied the vice-regal Palace and hoisted the flag of the triumphant Republic in the name of the legitimate government, personified by Mr. Juarez!

Those thirteen years of constant war had transformed the nation, inspired it, above all, with faith in the future, confidence in its destinies and relieving it from the obstacles which had hindered it to acquire the definite shape in which its growing had to be accomplished. What shall we say of the public Exchequer at that time, more than ever ruled by the laws of the supreme necessity not to perish?

Nevertheless, an episode claims our attention in an ineludible manner so as to answer these questions, which we Mexicans have surely put to ourselves some times: what has become of the enormous riches of the clergy and corporations? Though it was not in cash, why did the exchequer not take recourse to the proceeds of the many millions in landed property which the laws of Reform nationalized?

The enigma seems to be really inexplicable and yet, the key which opens it, is very simple. It will be sufficient to remember, that the nationalized property was paid with two fifths in cash in forty monthly payments and with three fifths in certain Bonds of the recognized public debt: against the former an issue of promissory notes was agreed upon and against the latter in obligations with fixed date and guaranteed by security. Well, the promissary Notes changed hands at very low prices, which never fetched more than 35 per 100, and the obligations, which were not lost in the middle of the confusion during the war, against Bonds, being redeemed against a cash payment of 3 and 4 per 100 of its amount. The law of the 5<sup>th</sup> of February of 1861 had expressly prohibited that it should be done in this way, but no doubt complacency did not wait long in overcoming it and already on the 21<sup>st</sup> of May 1862 this system was legally sanctioned.

What was it that inspired such grave errors, without which the exchequer would have obtained a considerable respite from the constant anxieties, and according to such respectable authorities as Mr. Romero, the twenty nine and a quarter million of the 3 per 100 Bonds, converted in 1850 and were being issued, would almost have been totally redeemed? Were they pressing and ineludible necessities? Was it a want of confidence in the consolidation through the most orderly channels of the political and social work, which was being realized and which was carried to an end in the midst of the war and against the opinion of all the wealthy class? Was it a fear that the debtors could not pay on account of this very resistance of the rich and timorous? Who knows! Probably these and other reasons determined this conduct and though we have to deplore that the Reform has not served to any immediate fiscal ends, let us do justice to the men who brought it about and do not let us curtail an apex of our admiration and gratitude that neither of them stained his conscience with a single peso of the many millions that passed through their hands, because *all, without a single exception*, lived and died in mediocrity and even in poverty: who, with their gigantic and prolific work have put us in the ways of recovering our lost liberty, which many believed to be impossible, and that without them, to say so at once, perhaps we would not yet have the right of calling ourselves Mexicans.

\* \* \*

It is time to conclude this chapter which has immeasurably grown under the pen of Matthias Romero, giving here the diagram of our deficits drawn up by him with his acknowledged assiduity in his already mentioned memorial of 1870:

ECONOMICAL YEARS	ESTIMATE OF REVENUES	ESTIMATE OF EXPENDITURES	CALCULATED DEFICIT
1825	\$ 9,770,372.37	\$ 17,066,438.61	\$ 7,296,066.24
1825-1826	" 17,658,942.29	" 16,666,403.46	"
1826-1827	"	"	"
Average calculation of the two previous and three posterior years . . . . .	" 13,685,964.42	" 15,703,980.69	" 2,018,016.27
1827-1828	" 13,607,637.64	" 15,558,276.42	" 1,950,638.78
1828-1829	" 14,192,132.61	" 15,004,719.01	" 1,412,586.40
1829-1830	" 13,149,737.22	" 13,624,005.95	" 483,268.73
1830-1831	" 11,752,346.50	" 17,438,540.34	" 5,686,193.84
1831-1832	" 12,000,000.00	" 20,499,680.66	" 8,499,680.66
1832-1833	" 14,500,000.00	" 22,302,607.89	" 7,802,607.89
1833-1834	" 13,000,000.00	" 17,000,000.00	" 4,000,000.00
1834-1835	" 8,724,686.54	" 12,724,686.54	" 4,000,000.00
1835-1836	" 7,255,809.34	" 14,200,744.34	" 7,034,935.00
1836-1837	" 11,096,099.17	" 17,381,543.88	" 6,285,444.71
1837-1838	"	"	"
The estimates were for twelve months, and increase in proportion to the eighteen months of which this economical year consisted . . . . .	" 14,806,092.00	" 40,733,916.91	" 25,927,824.91
1839	" 4,431,474.25	" 20,378,792.67	" 15,947,318.42
1840	" 4,526,121.81	" 18,447,675.80	" 14,421,753.99
1841	" 8,074,100.00	" 21,836,781.19	" 13,762,681.19
1842	" 14,650,000.00	" 19,326,475.27	" 4,676,475.27
1843	"	"	"
The estimates were substituted taking the average of the five previous years . . . . .	" 8,310,481.81	" 21,120,173.00	" 12,809,691.19
By calculation as the previous one . . . . .	" 7,908,436.16	" 19,023,810.77	" 11,025,374.61
1844	" 10,679,493.03	" 25,222,303.81	" 14,542,810.88
1845	" 10,247,760.50	" 24,310,030.69	" 14,062,270.19
1846	" 8,820,619.82	" 26,977,951.11	" 18,157,331.29
By calculation as the previous one . . . . .	" 12,105,802.00	" 24,870,780.87	" 12,764,978.87
1847-1849	" 7,726,797.76	" 16,580,520.58	" 8,853,722.82
1849-1850	" 8,083,027.22	" 20,292,130.62	" 11,309,103.40
1850-1851	" 8,274,927.61	" 20,012,242.07	" 17,737,314.46
1851-1852	" 10,044,298.35	" 16,387,632.85	" 6,343,334.50
1852-1853	" 15,383,075.00	" 32,378,246.00	" 16,994,071.00
1853-1854	" 17,519,128.85	" 17,519,128.85	"
1854-1855	" 12,000,000.00	" 14,228,324.93	" 2,228,324.93
1855-1856	" 12,000,000.00	" 14,228,324.93	" 2,228,324.93
1856-1857	" 13,380,486.43	" 14,727,616.70	" 1,338,130.27
1857-1858	" 14,058,516.85	" 14,415,033.47	" 357,116.62
1858-1859	" 13,793,425.21	" 15,023,805.78	" 1,230,380.57
1859-1860	" 9,895,000.00	" 15,543,885.00	" 5,648,885.00
1860-1861	" 8,000,000.00	" 8,327,418.04	" 327,418.04
1861-1862	" 6,800,000.00	" 9,992,901.60	" 3,192,901.60
1862-1863	" 7,500,000.00	" 8,500,000.00	" 1,000,000.00
1863-1864	" 6,375,000.00	" 7,225,000.00	" 850,000.00
1864-1865	" 5,418,750.00	" 6,141,250.00	" 722,500.00
1865-1866	" 8,670,000.00	" 9,826,000.00	" 1,156,000.00
1866-1867	"	"	"
TOTAL AMOUNT FOR 43 YEARS . . . . .	\$ 450,927,470.66	\$ 746,859,352.20	\$ 296,924,360.37
The surplus calculated for the second year, was . . . . .	"	"	\$ 992,178.83
Leaving the total deficit calculated for 43 years . . . . .	"	"	\$ 295,931,881.54

In sight of these figures, on which we have no space left to comment upon as it ought to be done, let us only be allowed to ask, according to the famous assertion of baron Louis, *if good policy produces good management*, or if things could not be said entirely reversed in the following form: *bad management is caused by bad policy*. The probability is, that both assertions may contain a part of only one veracity, because the linking together of the complicated social phenomenons, do not permit to isolate nor to consider separately its various elements. For this reason we believe the formula to be exact in which our great thinker the engineer Francis Bulnes condensed the law which ruled the relation between our deficits and revolutions, a law which can be expressed as follows: «While the deficit did not come up to 25 per 100 of the expenditures, though a revolution would break out, the established government always suppressed it; if the deficit exceeded 25 per 100, the revolution triumphed and the new government came to perform a liquidating function of the obligations contracted by its predecessor, passing them over to the chapter of the public debt.»

Is Mr. Bulnes right? Let the discreet reader resolve it for himself; and if he decides affirmatively, as it is probable, he may from now consider the importance which the balancing of the estimates will have had for Mexico, realized for the first time on a solid basis as we shall see in the following chapter in the fiscal year of 1894 to 1895.

## CHAPTER III

## THE CONTEMPORANEOUS PUBLIC TREASURY

(1867-1903)

## FIRST SECTION

## ANNOTATIONS FOR THE HISTORY

THE undertaking, with which the republican government, presided over by the worthy Juarez, was confronted in taking possession of the Capital in 1867, was enormous and in every way extremely difficult. The licentiate Joseph Maria Iglesias, of an unpretending disposition and a true liberal, and who from 1864 had been Finance Minister, continued to perform his office with such great assiduity and earnestness, that his health was soon forced to break down very seriously, obliging him to give up his post. However the few months he remained were sufficient for him to trace out with firmness and putting into practice with sincerity the great principles with which the salvation of the Mexican Treasury was linked together, and all this he was able to do with his clear conception, his experience in public matters, his spotless honesty and his unshaken love for duty, however arduous it might be. The greatest urgency required, above all, the concentration of the fiscal administration and to have accounts and data; he reorganized the general Treasury of the Federation and instituted in the Secretaryship of Finance a department of statistics and an other of account-keeping, which, if in the course of time it has been suppressed with advantage to centralize the work of carrying the accounts in the Treasury, proves the earnestness of Mr. Iglesias to have this arrangement introduced. It was of pressing importance that the central authority should be reconstituted and he hastened to put an end to the faculty of delegating military chiefs and local authorities which the war had made indispensable. It was necessary to cut down for ever the multiple heads of that hydra, called *agio*, which up to then had devoured all; and on the other hand he did not allow the discounting nor advances of imposts which might lessen the natural revenues of the Treasury, and again, he put the system of bidding in practice to redeem the public debt, according to which a sum of money was applied to the creditor who gave the greatest amount of Bonds against it; an empiric resource, if you like, and not maintainable in the long run, but the only remedy to show for the present the good intention of the Government to redeem the debt without odious preferences nor arbitrary coactions. With regard to the grievously famous *diplomatic conventions*, they were declared broken off, for the reason that the European governments had recognized the Empire, reconquering the nation by this act alone, its independency which it had lost, to resolve its interior questions according to its external appearance, finishing for ever with the shameful intervention which the foreign ministers had taken up every day with greater force and even with real insolence in the collecting and investment of our revenues.

All this was done notwithstanding the formidable task of resolving the very grave economic-political questions which the restauration of the Republic brought with itself. the settlement of the public debt created during the war, the punishment of the trespassers whose property had been confiscated, the premium paid to the faithful public servants and the military who guided the triumph, the disbanding of the numerous regular and irregular army, which had to be forcibly collected, the continuation of the work to nationalize the unalienable estates and many other questions of great importance. Mr. Iglesias attended to all, always trying to obtain the strictest economy, the greatest order, the most ample impar-

tiality that circumstances would allow, and this in the midst of a disorganization still bordering on chaos and of scarce resources, aggravated by the hostile attitude and lively resentment of the wealthy class.

As we have already said, the material labour, which the want of apt functionaries made even heavier, caused Mr. Iglesias to yield to another; Mr. Juarez called then to his side a man whose career commenced in Veracruz in a modest employment during the war of Reform, to conduct that immense work of creating the Public Treasury, who showed an unlimited attachment to the cause of the Republic, and who, with indefatigable perseverance and very uncommon intelligence had served it in the United States during the time of our war with the French, discharging all kind of important offices and commissions, as much in diplomacy as in many other branches.

This man was an other lawyer, whose name was Matthias Romero and whose energy was probably strengthened by the admirable show of the Anglo-Saxon institutions, methods and proceedings of our Northern neighbour and who, to his disinterested patriotism and other qualities and virtues added those of being laborious and without being a man of doctrine, both of them as inestimable as rare in our social centre. He took charge of the Ministry of Finance on the 16<sup>th</sup> of January 1868 and not only did he follow in the course which his illustrious predecessor had stamped out to the business of such an important department, but he also emphasized and ratified it, giving himself literally up, and without any rest, to the work, either by day or night, the immense burden of which had resulted to be superior to all efforts, even to those of the French financiers whom Maximilian had sent for, one of which, victim, as it was said, of the intense intellectual labour, died of congestion at the very table in his office.

Mr. Romero was not terrified of the serious nature of the immense and complicated problems that he had before him; on the contrary, he attacked all with admirable serenity, superior intelligence, singular modesty, and above all, according to a maturely worked out plan, which he himself summed up later on in his Memorial of 1870, saying:

«The radical changes in the fiscal legislation of the Republic, which imperiously demand the material interest of the nation, are the following:

»Not to make the maritime duties the basis of the federal revenues but to establish interior revenues, the proceeds of which would be equivalent to the maritime duties.

»To make a judicious reduction in the import-duties, when once the interior revenues are systematized.

»The establishment of the interior revenues on stamps, inheritances and direct tax on landed property.

»Abolition of all kind of export-duties.

»Radical change of the taxes on mining.

»Abolition of the excises.

»Suppression of the federal tax for the exchequer of the Federation.

»The opening of the coast to the commerce of exportation.

»The establishing of steam-ship lines to visit our coasts and to systematize a regular communication with them.

»The demarcation of the boundaries of the Republic on the southern frontiers.

»To prohibit the States from burdening the imports and exports.»

The reform to which Mr. Romero aspired in the imposts on mining, consisted, according to his own expression, in the following clauses: «To reduce all the duties charged on mining to one only, which has to be moderate and to fall on the profits of the mining companies; free exportation of gold and silver bullion to be exempt of all duty; reducing the duties of coining to the cost price of that operation; free smelting of metals by private individuals, to solicit the return of the mints in the hands of the Government and to prohibit their being leased.»

It has to be born in mind, that Mr. Romero was not the man to frame a plan to leave it on paper. Far from it, for, in putting himself to the task, he took on all these matters the necessary measures in his power, made them to be executed with all the authority that circumstances would allow, which still were rather disturbed, and as to those pertaining to the legislative power, he formulated complete and



scrupulously prepared initiatives; all this without any detriment in attending to the very laborious dispatch of current matters, which as a rule were serious, and to cover, as far as possible, the necessities of the moment, refusing in an inflexible and systematical manner to appeal to the disgraceful expedients and proceedings of years gone by.

Was this plan of a real economic and fiscal regeneration realized? Unfortunately not. There were certainly some accounts and estimates made out, as it had not been done since 1826, however imperfect, which were for the government and the nation the basis of a scarcely approximate knowledge of its resources and necessities; the most liberal of tariffs or general custom-house statutes we ever had were issued under the shelter of extraordinary faculties given to the Government to fight the revolutionary hydra which again had raised its repugnant head; as we shall see presently, something more and certainly of great importance was done, but in the first place, all this represented a formidable and tremendous fight, capable to master less temperate wills than those of President Juarez and his Minister Romero, in addition of which, the work had to result in being maimed, disfigured and therefore in many parts sterile and in vain.

The reader, but little versed in the political history of those days, will ask: «a fight? and with whom? Had not then the Republic triumphed over the traditional conservative party? Were, perhaps, the levelling and fruitful works of the Reform not yet completed, the odious privileges and monopolies abolished, the old turbulent army disbanded and without leaders? Yes, all that and much more had been attained; but the heat of personal ambitions and of very deeply rooted causes in every class of society, the spirit of insubordination, or better still of anarchy, was unfortunately not extinguished and not only lived in the form known as *pronunciamiento* and *bola*, but it also had its seat in the Congress of the Union, which was then composed of one Chamber alone, that of Representatives, without the counter-weight of the Senate, a moderating element, indispensable in the federative government which the Constitution might adopt. How justly did the authors of our second independence attempt to strengthen the directing power at the restoration of the Republic, and as such responsible to the federal Executive, and how much will the impartial and clear sighted history lament, that the form of plebiscit given to that sound intention, was not supported by the nation in general! Be it as it may, things went on and had to be accepted as such, as well as by Mr. Juarez and his ministers, always taking recourse to the Chamber for the sanction of those measures which implicated a reform of the existing laws.

And as Congress faithfully reflected the state of insubordination and even that of rebellion in which the political elements found themselves in those days, withdrawing itself from the incontestable authority of the chief of the State, which it ought to have been then by a thousand rights, more than under any other circumstances, showed himself soon very jealous of his constitutional authority. The Government always maintained the support of a loyal majority in the principal provoking questions of a purely political nature; but away from this limited field, it did not know how to second Mr. Romero in his gigantic enterprise of reconstituting the Treasury, and even with deplorable frequency was openly hostile to him, resulting, that the Congress as easily abolished anti-economical imposts, it is true, but the proceeds of which were imperiously necessary for the life of the very Government, as it decreed pecuniary recom-penses, the rehabilitation of pensions and Lombard-houses, legally extinguished, on a large scale and other expenses which made the balancing of the estimates impossible, or attacked the task of forming by itself the Tariff or maritime and frontier custom-house Ordenances, fantastical for a numerous political body. The other initiatives of the patriotic and clear-sighted minister were withdrawn by him to avoid struggles or remained dormant in the *portfolio* of the Financial Commissions of the Chamber.

Some called the epoch occupied by the 4<sup>th</sup> and 5<sup>th</sup> Congress «the last epoch of our political liberty;» the public conscience, revising that opinion, already commences to nullify it and to apply to that period the gloomy qualificative of *legal anarchy*. It might well be, that some initiative of Mr. Romero were not totally to the point and that others were taken up before its time, but at all events, it seems incontestable, that though those tenacious resistances may have been inspired in complete good faith and with

a sincere patriotism, were, either through the political criterion of its authors, purely jacobine, or its stubborn prejudices of doctrine, a very principal part to paralyze by facts a financial reform undertaken with such high expectations and which, in being carried out, as it would have undoubtedly been done with the necessary prudence, would so much have forwarded the economic progress of the Republic.

In spite of all, sufficiently was advanced under manifold conceptions. Great progress was made on the very important ground of practical institutions which have continued and are now definitely conquered: of these we shall only mention the yearly report of the Treasury accounts and estimates, which not only allow but also impose on the country and its government an attentive examination of its more important affairs, which unfailingly reflect on the finances their good or bad results.

On administrative ground, the special funds were abolished, the superior authority of the Treasury Department imposed itself, but not without obstacles put in the way by the subordinate officials and even by the general Treasury itself, refusing sometimes openly to cut down their accounts at the end of each fiscal year; numerous dispositions were dictated to implant the uniformity in the accounts, order and subordination in the offices of the Treasury, overcoming enormous obstacles fomented by the political confusions and even by the public opinion, which, far from encouraging, weakened the titanic efforts of the Government. Lastly, very important reforms were introduced in the legislative order, nearly all in the way of extraordinary faculties conceded to the Executive. We have already spoken of many of them at the time of studying the mercantile evolution (1), and in particular of the tariff of the 1<sup>st</sup> of January 1872, which was so much inspired in commercial principles of liberty



Sebastian Lerdo de Tejada

never practiced before, a good part of which were nullified by Congress, abolishing them in the following May, and where we also referred, amongst others, to the salutary reforms of having authorized the exportation of gold and silver in bars, as well as of allowing and regulating for the first time the transit across national territory, and the exportation of mineral ore and dust which formerly only could leave the Republic according to the sacramental tariff expression, «in small quantities and as a curiosity for the collections of learned men.» We shall, therefore, only mention here some others of the most important of laws then published, and in the first place that of declaring the goods imported through ports withdrawn from the submission of the Government subject to the double payment of duties, with the object of finishing with the *pronunciamientos* and *cuartelazos* (barrack-riots), which instigated and paid the smugglers, principally in the Pacific ports; that which instituted and regulated the body of custom-house officers on the

(1) See pages 197 and the following of this volume.

Northern frontier as well as to stop smuggling which was there carried on in a scandalous manner; that which reformed the law of direct contributions of the Federal District of 1861, improving many of its precepts; and above all the law of 31<sup>st</sup> of December 1871, which, as a substitute of the old revenue on stamped paper, instituted that of the interior stamp duty, putting it on a complete new basis in our fiscal system, with the high aim of creating resources on the interior movement of the public wealth, which would make the federal Treasury independent of the eminently variable proceeds of the maritime and frontier custom-houses.

Mr. Romero had to remain a few months longer at his post and retired from it in June 1872 in the midst of an impopularity as unjust as it was irritating. What had he done to bring it upon himself? In our opinion it was nothing more than to do his duty, looking only for the good and prosperity of the country. They judged him in those times, some of them still judge him, influenced by the *popular claimour*, a *claimour* of the then discontented, as a simple public servant without any elevated aims which could reach the distant horizons of the future. What a misconception! He certainly lived amongst dispatches, memorials and papers, but only to extract from the dust of our incomplete and deficient archives the prolific doctrines of passed errors and not to fall into them again, leaving us, amongst many other documents of inestimable value, the history of our public Treasury contained in his Memorial of 1870 and which before him was fragmentary and almost unknown, a real work of intelligence, of superior criterion and of an unbounded patience and assiduity, the thousand pages *in folio* served shallow observers to convert it from a pedestal of glory to an ignominious gibbet. What a monstrous crime! To fill up many reams of printed paper with ciphers and accounts, with the painful enumeration of our misfortunes, ignominies and financial blunders; to follow the thread of that seemingly incoherent labyrinth of barren events without losing it in order to show that institutions, progress, liberties, all that which constitutes the self-governing life of a stroug nation, take root in its economic health and organized exchequer; to judge with the cold and stern criterion of figures the Reform, the Intervention and the Empire, and to show in close columns of ciphers, not in dithyrambs, the amounts in pesos and centavos, what Mexico gained by the triumph of the Republic; always telling the truth in everything, doing merely justice, even to his rivals and contemporaries, according to that which each of them deserved, without any flourish of rhetoric nor declamations, almost without commentaries, in the dry official style of a modest functionary who is not in search of praise. All these things brought upon Mr. Romero scorn, mockery and bad intentions which did only commence to calm down before the tomb of the honest functionary, who even in dying only thought of his country, bequeathing to Mexican public beneficence the fortune he succeeded to collect by dint of a simple and economic mode of life.

We have also spoken in an other part of that which lead to the great impopularity of such a respectable person (but who, it is only just to say, always preserved the esteem and approbation of all our governments); the concrete charge brought against Mr. Romero and changed at one time into a disconcerted controversy with the Supreme Court of Justice, was, that he not always paid the *fifteenth*. In the first place, the Congress imprudently abolished imposts, increased the expenses with even less foresight and paralyzed the most important initiatives, as that of the custom-tariff, in expectation of which commerce retained for a long time its orders, thus helping to reduce the custom-house receipts. Afterwards, the revolution broke out in Yucatan, Zacatecas, San Luis Potosi and in a great part of the Territory, disorganizing all and imposing and disproportioning heavy war expenses. And lastly, was there at any time a Minister of Finance who had not had to leave expenses and salaries uncovered? Mr. Romero could no doubt have recourse to negotiation, discount and jobbing as all had done it before him and as others had to do it still afterwards. Never did he apply to these expedients, of which he gave an account in his Memorials to Congress. What were, therefore, his faults?

Probably the explanation of such an injustice, against which the author of these lines thought it his duty to raise his humble voice, who never worked near Mr. Romero and had the honour of shaking hands with him but on few and rare occasions, can be totally found in the social cercle in which he moved.

VOLUME SECOND

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History of Public Finance

**Mexico. — Magazines of the new custom-house**









The teaching in national schools of the political economy and of the stern and inflexible method of science, did only commence in 1868, and this is not one of the least benefices which we Mexicans owe to Mr. Juarez.

\* \* \*

There is not much to be said of the Public Treasury during the four years of the presidential period of Mr. Lerdo de Tejada, who, as it is known, kept almost all the Secretaries of State of Mr. Juarez in their posts, amongst which was Mr. Francis Mejia, head-official in the section of nationalized properties, who did not have the superior spirit of a Statesman in the Treasury Department.

Explanations of the custom-tariff of 1872 and some other measures which contributed to affirm the administrative order, is the substantial part that filled up the four years, which, if it was not so fruitless in political order, as it was the fashion of affirming, for we owe him the incorporation of the laws of Reform to the Constitution of 1857 and the important creation of the Senate, he did not distinguish himself by his activity in other branches. Nevertheless, there are worth while mentioning in the Treasury Department the law of 18<sup>th</sup> of November 1873 on the manner of preparing the estimates and to form and to examine the Exchequer account (1); the completing of the abolition of the special funds, which permitted in favorable terms for the sensualists the redemption of the capitals of public Instruction, as well as the fact of having carried into practice in January 1875 the stamp-act, which, on account of the delay in the printing of *estampillas* and other important preparations, had not commenced to be observed.

That law provoked displeasure and resistance, which, with other more serious causes of political order, gave motive to the new revolution called Tuxtepec, triumphant in 1876, and which, as a consequence, originated new financial confusions. Luckily, the conflagration did not last long, and the new order of things, in view of a judicious appreciation of the public necessities, soon cast in oblivion its promises to abolish the stamp duty which went on changing in a favorable sense, justifying every day more the hope, that Mr. Romero, its founder, might be perpetuated.

We have already said in an other part, that in the first presidential period of general Porphyrius Diaz, the financial task was characterized by a stubborn persecution of smuggling, which was successfully combated in lowering some of the tariff rates which were too high, especially those on Virginia tobacco and on certain cotton goods, and above all, enacting corporal punishments for those defrauding the Exchequer.

A useful change of the numerous explanations and corrections, which the Tariff of 1872 had suffered, was also made, and amongst others of less importance, the fact of having been put at that time an impost on cotton mills, seems to us worthy of special mention; these mills had up to then been a *sancta sanctorum* which the governments had not touched, probably timorous of the stubborn resistance which its proprietors, the most part of which were rich and influential Spaniards, had opposed to contribute to the public expenses, invoking the almost unlimited protection, for many reasons irrational, which this industry enjoyed since very remote times.

About the end of that same presidential period, Mr. Romero, who for a short time returned to take charge of the Finance Ministry, resolved the question of the railways joining it with the recognition and settlement of our London debt, the service of the same had continued in suspense since the restauration of the Republic. We have no more space left to lay before the reader the details of this projected transaction, which in the opinion of many would have put in the hands of European companies a good part of our railway system, taking it away from North-Americans, and at the same time it would have served to

(1) This was our first law which sanctioned the salutary principle of strengthening the administrative authority of the Minister of Finance and to concentrate in the Treasury the faculty of joining all the accounts of the revenues and expenditures in order to form the general account of the Exchequer.



forestall the regeneration of our exterior credit under favorable conditions. The fact is, that for one reason or another, a multifarious policy prevailed with regard to railway matters as we have seen in its place; and although the estimates had never reached a perfect equilibrium, important bounties in money were promised to the Central and National Railway Companies, with the condition, that they would only be paid less a limited percentage of the maritime and frontier custom-house receipts, following certain concessions which Mr. Lerdo de Tejada had authorized.

\* \* \*

The administration of General Emmanuel Gonzalez was commenced under similar conditions, during which our great railways were commenced to be built, a fact which resolved the economical resurrection of the country and as a consequence the power and prosperity of the Public Treasury. Unfortunately, no advantage was taken of such a favorable conjunction to introduce the settlement in the Treasury, which only is possible with a form and equally balanced Budget, though it was really thought at the beginning, that this grand work would be undertaken, because the very important law of the 30<sup>th</sup> of May 1881 was published, which, in ordaining that an office charged with the liquidation of the intricate and incomplete accounts of the Exchequer, up to then carried on, gave precise and rightly conjectured rules for the future, as much for the presentation of the estimates as for the forming and rendering the annual account of the revenues and expenditures to Congress. Though no criticism of this law was wanting, the inspiration of which we believe was due to the then general treasurer Francis Espinosa, and though it may perhaps not have been perfect in all its points, the truth is, that it implanted the principle of concentration in fiscal account-keeping in the hands of the Treasury under the administrative direction of the Ministry of Finance, it facilitated very much the auditing task in the General Auditorship, establishing the previously prepared commentary of the accounts in the General Treasury, and finally, it signified a considerable progress, which is proved by the fact of its being up to to-day in force almost in its totality.

This was not the only beneficial law of the four years, in the short review of which we are engaged; for the first time since Independency was declared and during those four years, the anti-economical duties on the exportation of coined silver and gold was abolished; rather just and equitable bases for the settlement of our public debt were ordained in the law of 14<sup>th</sup> of June 1883, which, as we shall see hereafter, served as a foundation of that of 22<sup>nd</sup> of June 1885 and even an attempt to substitute the fractionary silver money for that of nickel would have been praiseworthy, if an unlimited free power, which is against the salutary economical principles, had not been given to that coin by Congress, modified on this point by the ministerial initiative.

As, however, the increase in the public revenues at the beginning of this period had been an encouragement for disorder and even, as many say, for administrative immorality to exalt themselves, the good effects of these well aimed measures were almost entirely lost, due to a great part to Mr. Jesus Fuentes y Muñoz, who was chief of the Financial Department, first as chief official and afterwards as Minister. The general War Commissariat was established against the sound spirit of the law of May of 1881, which, though dependent of the Treasury, broke the unity of the system of that law (1); the lamentable practice was also introduced, that the estimates of expenditures should contain numerous authorizations of expenses without limiting them to their amount, which made the Budget itself useless; and lastly, so as not to enter into painful details, we will only call to recollection one incident, which was decisive in producing the helpless impopularity of that Government. The nickel money, coined abroad by contract, came when the wants of the Exchequer were already in an acute state and was put in circulation at a discount, reaching a scandalous rate. As it was needful, it caused great confusion in all the revenues and in commerce itself and even provoked popular disturbances which were aggravated by the making

(1) Fortunately, it was abolished in 1885.

of an agreement to acknowledge the old English debt, which public opinion and even Congress met with marked hostility.

On the other hand, numerous engagements of a less judicious and considerate manner had been entered into, be it in the form of bounties to railway, steam-ship and other companies, be it in that of contracts of colonization, of every kind of provisions and constructions and the preservation of telegraphs. The National Bank of Mexico, which was principally established with French capital in 1882, served in essence as a support to the Public Treasury to cover its most pressing wants, but in a very short time, the resources of the Bank were exhausted and the old jobbing transactions reappeared in its well-known form of advancing a sum in cash and an other in Bonds of the Public Debt at par, the Exchequer binding itself to pay back the total with a part of the custom-house receipts or other revenues, which were especially put aside for this purpose.

As it was to be expected, the gulf became wider and wider, and when on the 1<sup>st</sup> of December 1884 the new presidential period of General Diaz was inaugurated, the financial situation was in every respect unbearable.

The licentiate Emmanuel Dublan, who took upon himself to face it, and who was Minister of Finance up to his death in 1891, describes it in his Memorial of October 1885 as follows:

«It seems to be expedient to begin with this report in presenting to the consideration of the Congress an information of the obligations resting on the federal revenues on the 1<sup>st</sup> of December 1884.

»According to the immutabilities which act on this Ministry and the General Treasury, the aforesaid burdens were the following:

»The custom-houses of Tampico and Matamoros had the 94,87 per 100 of their revenues pledged; those of Veracruz, Laredo, Mier and Camargo, the 87,87 per 100; the other custom-houses the 87,37

per 100. In this way, some of the custom-houses had only the 5,13 per 100 of their receipts free and the least burdened could hardly dispose of the 12,63 per 100 of their revenues.

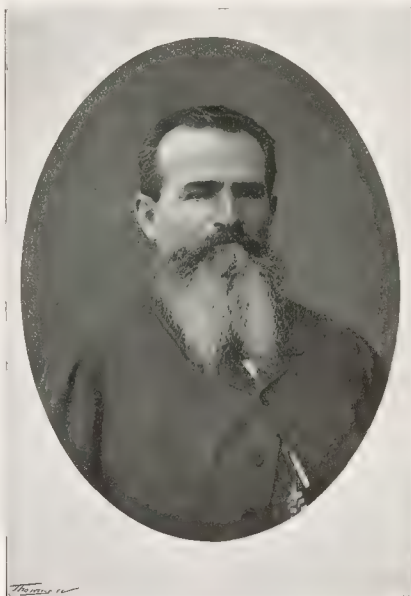
»Besides, the collecting offices of the Federal District bore the following obligations:

»The total amount of the revenues of the Tax-Administration was handed over to the National Bank for the service for the first serie of the loan of thirty million.

»The principal Administration of revenues of the District and the National Lottery delivered to the same Bank, by contract made on the 10<sup>th</sup> of October 1884, the first \$ 2.000 daily and the second the total of their free receipts.

»The mints of Mexico, Durango, Guadalajara, Culiacan, Alamos, Hermosillo, Guanajuato, Zacatecas, Chihuahua and San Luis Potosi, were leased to private companies and bore a burden of \$ 2.384.568,67, most of them at a yearly interest of 6 per 100.

»Besides, eight hundred and eighty pesos had been received from the Mortgage Bank in three different loans, furnished by the said establishment on Mortgage of the following national buildings and properties:



Emmanuel Gonzalez

»The barracks of Peralvillo, of Invalids at Santa Teresa and San Ildefonso; Schools of Art and Trades for men, for girls of the Encarnacion and Fine Arts; the custom-house of Santo Domingo, the Hospital of Terceros, the Railway of San Martin, the Astronomical Observatory, the Landed Properties of Ascension and San Jacinto and the School of Agriculture.

»These loans have to be redeemed within twenty years, by quarterly instalments of \$ 24,200.

»With the public receipts burdened to the amount just specified, the revenues reduced by more than 6,000,000 pesos, on those of the previous year, as will be seen by the comparative diagram of proceeds, which will be found in its corresponding place of this Memorial, and having to pay an estimate of more than 40,000,000 pesos and to confront a deficit of more than 23,000,000 proceeding from former ministries, it shows at once, that it is useless to exaggerate the difficulties of that situation.

»The Executive tried to overcome them by means of dispositions, about which I shall shortly report to Congress.

»The most pressing want consisted in redeeming the public receipts, if only partly, for while they were pledged, as they almost were in their totality, to the payment of the obligations of the Treasury, the regular progress of administration was in every respect impossible. In consequence of which, one of my first acts as Minister of Finance was the arrangement made with the National Bank of Mexico at the beginning of December of the previous year. By virtue of that arrangement it was agreed: that all the debts which the Government had with the Bank up to the 30<sup>th</sup> of November last, should be paid off up to that date, and that any Balance against the Exchequer should be paid with 15 per 100 of the import duties; that the net proceeds of the National Lottery should continue to be subject to the same obligations they were then; that any indebtedness in favour of the Bank should be paid without any interest, with the sole exception of the Balance of the account-current, which, according to the law of concession, had to have a profit of 6 per 100 per annum; and lastly, that certain credits belonging to private individuals, though they were paid by the Bank, did not belong to its capital, should be gradually covered and in the proper order, with a monthly distribution of a hundred thousand pesos.

»The action of the Government and the good will of the Managing Board of the Bank of Mexico produced in this way the partial discharge of the public revenues, the stopping of the 30 per 100 pledge money, established by decree of 31<sup>st</sup> of May 1884, that of 5 per 100, established by decree of the same date, that of 5 per 100, established by decree of 14<sup>th</sup> of July 1884, that of 5 per 100, established by decree of 10<sup>th</sup> of October of the same year and that of 2,000 pesos daily, which the Administration of Revenues of the District paid to the Bank.

»Therefore, the mortgages pledged to the Bank, the rates fixed to the railways and to the works at the ports were reduced to 15 per 100, allowing to dispose of 60 per 100 of the normal revenues.

»The Executive considered this arrangement to be preferable to the expedient of soliciting a new loan, be it, because it did not seem to be convenient to impose new obligations on the country, after bearing so many, or be it also, because under the present circumstances it would only have been possible to get the loan on very onerous terms.

»The serious difficulty which originated in the pledging of the public revenues being partly settled, the Government tried to increase the receipts in stimulating the productive powers of the country and to establish all the compatible economies with the necessities of the country. In fact it solicited and obtained from Congress the necessary authorization to modify the law on imposts and to reform the federal offices and among other things, enacted the custom-house Ordinances; reducing the stamp-tax on documents and books, which had been doubled in various fractions of the tariff, to the single rates, enacted by the law of 15<sup>th</sup> of August; substituting the new impost on goods for an other one called «interior revenue,» which is collected with greater facility and less troublesome to the tax-payer; changing the staff in some of the offices; suppressing all the situations of supernumeraries, assistants or attendants, and agreeing on the disconnecting of functionaries with cash security who did not guard against the losses within the legal limit.

The evil was, however, deeper than it was thought to be, and the steps taken, referred to in the previous passages of the Memorial of 1885, were not sufficient to prevent the storm. A radical solution was imposed in an ineludible manner, given on the 22<sup>nd</sup> of June of the mentioned year, and in which three measures of exceptional importance were sanctioned. The first consisted in reducing the salaries and allotments of all the public officials in an increasing proportion according to its importance; by the second, all pledges weighing on the public revenues were suspended, ordering that the creditors, who were in possession of them, should be paid in Bonds called *Treasury Bills* bearing a yearly interest of 6 per 100; and as to the third, the bases were fixed for the redemption and acknowledgement, in conformity with the directions given in the law of 1883, of the various credit notes or Bonds which formed our interior and exterior debt and the unpaid balances of estimates previous to the 30<sup>th</sup> of June 1882, ordering that they should be unified in one single category of Bonds under the denomination of the «Consolidated Debt of the Mexican United States.» The new Bonds would bear interest at the rate of 1 per 100 during the year 1886, 1  $\frac{1}{2}$  in 1887, 2 in 1888, 2  $\frac{1}{2}$  in 1889 and lastly 3 per 100 from 1890 forward.

These three dispositions marked out the beginning of a new era in our financial history and have, for this reason, an exceptional importance. Though the first was of a transitory nature, it relieved the Treasury from the immediate payment of a sum which Mr. Dublan calculated to be more than \$ 2,000 000 yearly; the second not being accepted by the creditors, was not put in force but it served to pay in posterior estimates and with ease the amount of the so-called «floating debt» i.e. the debts posterior to the 1<sup>st</sup> of July 1882, by virtue of a special arrangement; the third, being accepted by the creditors of the Exchequer, although the conversion to which they were called was of a voluntary character, has been the corner stone of the building of our public credit, and for this reason it should deserve a more exact explanation, if we were not prohibited from entering into details, which only can be of interest to the specialists (1), and as this short synthesis is destined to give a general idea of our financial evolution.



Emmanuel Dublan

(1) Only for the purpose that our reader can form a judgement of the number of Bonds of which our disordered public debt consisted, we copy herewith the nomenclature of those that were admitted for conversion:

Art. 16.—The following credit-notes or Bonds are admissible in the conversion:

- I. The Bonds of the debt contracted in London and converted by the law of 14<sup>th</sup> of October 1850.
- II. The Bonds of the 3 per 100, created by the law of 30<sup>th</sup> of November 1850 and issued up to 17<sup>th</sup> of December 1857, and those issued afterwards, provided they have the annotation disposed in the order of 17<sup>th</sup> of January 1861.
- III. The Bonds of the suppressed English convention of 4<sup>th</sup> of December 1851.
- IV. The Bonds of the suppressed Spanish conventions of 6<sup>th</sup> of December 1851 and 12<sup>th</sup> of November 1853.
- V. The Bonds of the 5 per 100, created by the law of 19<sup>th</sup> of May 1862 and issued up to 17<sup>th</sup> of December 1857, and those issued afterwards, provided they have the mentioned annotation in the second fraction of this article.
- VI. The documents issued by the name of *cotton allowances*.



We must, therefore, conform ourselves in saying, that the good result obtained crowned the design of Mr. Dublan as far as this part is concerned, no doubt on account of his not following the footsteps of those who in former periods made promises impossible to fulfil; that the operations leading to the conversion, the term of which had to be prolonged in 1889, were actively carried on, and although some debts to be examined and some questions to be resolved were left pending at the closing of the liquidating offices, called «Direction of the Public Debt» (which made it necessary to enact other laws, of which we shall speak hereafter), the improvement obtained in the settlement of our debt by the law of 22<sup>nd</sup> of June 1885 and for that of our Treasury, may be qualified as enormous.

As we have already said, this law had included our exterior debt of London, and to make its principles to be accepted by the Bondholders, representing the same, general Francis Z. Mena was commissioned, who, with his usual characteristic veracity and zeal, brought his difficult task to a successful termination, adjusting a special agreement on the 23<sup>rd</sup> of June, thus putting an end to the agitation which this matter stirred up in the public mind, and which, as we have already said, was converted at the end of 1884 in a stumbling-stone.

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The years posterior to 1885, in which the economic evolution of the Republic continued under the shelter of a formerly unknown political tranquillity, were not very calm as regards the public Treasury, probably for the want of a general plan conceived with sufficient clearness and executed with adequate firmness (1). Especially the engagements made in order to continue the construction of railways and

VII. The certificates which the General Treasury issued by supreme order of the 14<sup>th</sup> of January 1861 and put in circulation on the 17<sup>th</sup> of the same month, for want of the Bonds created by the law of 3<sup>rd</sup> of November 1850 and 19<sup>th</sup> of May 1852.

VIII. The certificates which in fulfillment of the supreme order of 22<sup>nd</sup> of January 1861 and of the law of 14<sup>th</sup> and 16<sup>th</sup> of February of the same year, were issued by the General Treasury.

IX. The Bonds issued in virtue of the decree of 12<sup>th</sup> of September 1862.

X. The Bonds issued in San Luis Potosi in November 1863.

XI. The Bonds issued in San Carlos de Tamaulipas on the 4<sup>th</sup> of July 1865 by intervention of the Mexican Legation in Washington.

XII. The certificates issued by the liquidating sections and General Account-keeping of the Treasury by virtue of the law of 19<sup>th</sup> of November 1867 and the credit-notes against which no certificate was issued, but which were presented, acknowledged and liquidated according to the same law.

XIII. The Obligations and Bonds of various classes, issued previous to the law of 30<sup>th</sup> of November 1850, and which by virtue of it were left deferred; the credit-notes of the same class which were not converted but were presented, acknowledged and liquidated; and the previous credit-notes of the same law of 30<sup>th</sup> of November 1850 which were not included in it.

XIV. The certificates of amortization of the copper-money coined in Chihuahua, issued according to the bases agreed upon on the 20<sup>th</sup> of August 1863.

XV. The Deposit certificates of the copper-money collected in the State of Sinaloa, issued by virtue of the decision of the Secretary of Finance of the 25<sup>th</sup> of September 1875.

XVI. The balances of salaries, pensions and the rest of the unpaid balances of the estimates of expenditures up to 30<sup>th</sup> of June 1882, provided that those which had a right to them are not included in article 7 of the law of 13<sup>th</sup> of October 1870.

XVII. The credit-notes which are against the Federal Exchequer on account of the operations of nationalization.

XVIII. The resolved claims and those still pending in a legal or administrative way, once examined and resolved according to law.

XIX. The credit-notes originated through ministrations, occupations, forced loans or through any other act or transaction from which a charge to the Public Exchequer has been established, and in general all the rest of claims once examined according to law.

(1) This fact is so much more to be regretted, as Mr. Dublan had obtained the sanction from Congress on the 11<sup>th</sup> of December 1884, a law in which article 3 contains the very important and salutary direction: «that the contracts made by the Executive for any department of the public Service, amounting to charges against the Exchequer and not included in the expenditures of the Budget in the year in which the contract has been made, shall be executed with the intervention of the Secretary of Finance, authorizing, by his order, the corresponding obligations or deeds, to be legally formalized by the General Treasury of the Federation. In order to make these contracts valid, the sanction of the Congress of the Union is required.»

other public works, were more than once the reason of the expenditures exceeding the revenues, resulting in the Budgets showing a deficit and as a consequence to increase the floating debt. Certainly in some of the cases, the system of promising subventions in money to exchange them into special Bonds was abandoned, but neither the class and interest of these Bonds was controlled by any principle of uniformity nor was there any limit to its amount imposed upon. The floating debt, therefore, went on increasing and in order to pay it from time to time, when its amount was already very considerable, recourse had to be taken to the system of contracting gold loans abroad which the regeneration of our credit had made possible. The first assumed the character of a sinking fund of our London debt, which the Government, in coming to an agreement in 1886, reserved itself the right to pay with considerable acquittances on its nominal value, and in 1888, with the guarantee of 20 per 100 of the custom-house receipts and the entire proceeds of the direct taxes of the Federal District, Bonds with interest at the rate of 6 per 100 for the value of £ 10,500,000 were issued, which, after redeeming the promissory notes issued by virtue of the convention of 1886, left a rather considerable surplus. In order to diminish the obligations incurred in favour of our great railways with the assignment of a certain percentage of the custom-house revenues, an other loan for 6,000,000 pounds sterling was made in 1890, also with a yearly interest of 6 per 100 and a guarantee of 12 per 100 of the custom-house receipts. There were no persons wanting who more or less openly criticised this transaction, because the proceeds were not all applied to the proposed decrease, because it was not of great importance and because the obligations in favour of the railways were in silver and did not bear any interest, while the new loan was in gold and paid interest. However, the proceeds of this loan served also partly to pay off some of the floating debt and other current wants of the Exchequer, without taking any radical measures which once for all would consolidate our finances.



Robert Núñez, Under-Secretary of Finance

As it will be indispensable for us to refer to it later on, we have to mention here an other gold loan, contracted by the Republic, though not exactly through financial transactions. We allude to the 5 per 100 promissory notes issued for the amount of £ 2,700,000 to pay with it the price arranged with Mr. Edward Mac Murdo for the reconstruction and finishing of the National Railway of Tehuantepec. The issue of these promissory notes, guaranteed by the mortgage of that railway, was made in 1890 by virtue of contracts which the Secretary of Encouragement made in 1888 and 1889.

At the same time, and for the identical reason, we will call to recollection the existence of special promissory notes or Bonds payable in silver and by way of subvention to various companies without occupying ourselves for the present in giving the details of its amount at a fixed period, for we shall see it later on, only stating, that its different categories were more than ten, most of them bearing interest at the rate of 6 per 100 per annum and that some of them had been issued at less than its par value.

Such is, in short, the financial work carried out in the six years and a half that passed from December 1884 to May 1891, in which year Mr. Emmanuel Dublan died, and of which we have not

occupied ourselves as yet, for that, which was intended to do in order to abolish the excises and that which was done with regard to Banks, tariffs, free zone and other matters connected with our mercantile evolution, has been treated on in its place.

In conclusion we shall mention various reforms made in the stamp-duty, always in the sense of making this revenue more productive, as well as the formation of the fiscal Gendarmerie in March 1885, which advantageously substituted the irregular accumulation of corps (the 9<sup>th</sup> rural), squadrons (of military colonies of Coahuila, Chihuahua, Sonora and Durango), companies of fiscal policemen, frontier-guards (at the Northern frontier and Sonora) and commanders and watchmen (of the head-offices of the Treasury at Chihuahua, Coahuila and Durango), which had gradually been instituted without plan nor order during previous epochs with the object to impede and punish smuggling.

The short Secretaryship of Finance held by Mr. Benedict Gomez Farías, successor of Mr. Dublan, did not distinguish itself by any important fact or measure. It may be said, that on account of the impulse given, things continued in the way brought about, and when Mr. Matthias Romero and his head official or under-secretary Mr. Joseph Y. Limantour took charge of that Department on the 29<sup>th</sup> of May 1892, it was thought by the legislative Chamber, by business men and even by the whole nation, that the financial situation, if not definitely and firmly consolidated, was nevertheless rather prosperous.

Therefore it was with surprise and even with a certain incredulity mixed with amazement, that Mr. Romero was heard to declare in Congress in his Memorial of the 16<sup>th</sup> of September of that year, that the public Treasury was then going through a dangerous crisis which required a speedy attention and which the eminent Minister described as follows:

«I have always believed, that loyalty and good faith constitute the best policy; they have been at all times and in every case the standard of my conduct. I shall not separate myself from that rule on the present occasion and for this reason, not a sole notion will be found in this Memorial, that does not emanate from a sincere and profound conviction. It may be that my conclusions do not agree with the expectations of the National Representation; it may be that they differ from those held by the public opinion of the country, but I consider it to be my duty to express them without any circumlocution nor reserve, for I do not look for any praise but my only intention is to discharge a duty.

»To attain the complete balancing of the revenues with the expenditures has not been possible up to now, not even during the administration of the actual President of the Mexican United States in which the nation has been enjoying the benefit of peace and its material progress actively encouraged. A more or less considerable deficit existed every year, which was balanced with the surplus of one or the other loans negotiated in Europe, be it in the form of public loans, as those of 1888 and 1890, which were brought out in the market and against which promissory notes bearing 6 per 100 interest were issued, be it through advances made by some European banking firm in connection with the National Bank of Mexico.

»On the 1<sup>st</sup> of July 1891, the date on which the sixty seventh economical year, referred to in this Memorial, was commenced, the deficit of the previous year was balanced with the proceeds of the loan of six million pounds sterling issued in 1890 and destined to pay the railway subventions. On account of insufficient representatives of the Mexican National Railway Company, the subvention due to them could not be paid with the proceeds of that loan and no better destiny could be found for that sum than to apply it to pay off the debt owing to the Bank. All the receipts of the federal revenues, which amounted to thirty seven million pesos and some five million more which the federal Exchequer owed to the National Bank of Mexico on the 30<sup>th</sup> of June 1892 for advances made in the same year, were spent during that year.

»When the undersigned secretary took charge of the Secretaryship of Finance, he found that debt

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Public finances

**Meeting room in the Ministry of Finance**

(FROM A PHOTOGRAPH BY BRIQUET)









in favour of the National Bank and he was, at the same time, confidentially informed by the representative of that establishment, that it exceeded more than double the amount in account current which the Bank was obliged to advance to the Government according to its contract, and as this was increasing and the collecting of the taxes made by the Bank every month for account of the Government at the appointed federal offices, being inferior to the sums supplied to the Treasury and according to the agreement of concentration of funds, the Bank wished, that in view of there not being any great probabilities of soon changing this situation, the Government should take the necessary steps so as not to have recourse to the said assistance.

»It was this circumstance which determined the President of the Republic to solicit an advance of six hundred thousand pounds sterling, equivalent to something more than four million pesos, from Mexican and European Banking houses who on former occasions had made similar loans to the federal Exchequer, while the economies agreed upon to increase the collecting have their desired effect. As a greater amount than the interest becoming due was owing to the Bank, no better use for that advance could be found, than to apply it to the debt which the Exchequer was owing to the Bank. Thus, this establishment was put in a position to continue its advances to the public Treasury while they were necessary and the balancing of the revenues with the expenditures was possible to realize.

»Amongst the documents annexed to this Memorial, is the text of the contract made with the National Bank of Mexico on the 1<sup>st</sup> of August last on the mentioned advance and other informations, showing the use made of its proceeds. It will not be here superfluous to state, that in the said contract, no rights similar to those bestowed on other occasions were granted to the lenders, and that the rate of interest is inferior to the one at the present paid on investments in the purchase of Mexican promissory notes in London.

»The Executive proposes to do all he can in his power to prevent the increase of the debt with the Bank, for he understands the inconveniences that will result from systematically spending greater amounts than those proceeding from the federal revenues. According to the contract of accumulation of funds, the Bank was obliged to furnish the Treasury with weekly promissory notes of \$ 310.000 for account of the collected funds. During the last economical year, it furnished as a rule four instalments every month, but since last June the four weekly payments of three hundred and ten thousand pesos furnished by the Bank to the Treasury, have been reduced to three and that circumstance will contribute to prevent the balance from going on increasing. The Executive will make an effort in balancing in the future that which the Bank furnishes with the funds it collects.

»It is evident, that it is not profitable to follow the system of covering the yearly deficit of the public expenses by means of loans payable in gold and at a relatively high interest, even if it were possible. No nation ought to make an abuse of its credit, because the abuse brings on its complete downfall and endless evils, that its consequences can only be repaired in the course of many years. It is, therefore, indispensable to strengthen oneself with sufficient energy in order to balance our Budgets, making on one side all the economies compatible with the necessity of preserving the credit of



Edward Noetzelin,  
one of the founders of the Mexican National Bank



the country, maintaining peace and the efficiency of public services, and on the other side, to increase the imposts as far as the crisis, through which the Nation is passing, may permit.

»The President is sure, that in this salutary matter he will be able to rely on the co-operation of not only Congress but on the whole country, on all political parties and institutes and that they will stand by him to avoid the consequences of any other system that could not bring any good results. Fortunately, the country counts with elements of sufficient wealth to pay all its debts, however heavy they may be, and to cover all its expenses; the only necessity is order and economy in the administration and the punctual collecting of all its revenues. The President is decided to carry out that programme with all energy.»

Now with regard to the cause which determined such a state of things, Mr. Romero refers to them thus:

«The necessity of promoting the development of the material elements of the country's wealth by means of the construction of railways, on one side, and that of establishing the credit of the Republic, on the other, obliged the administrations that governed the Nation since 1880 to contract heavy pecuniary responsibilities, of which at least a considerable part of the interest has to be paid in gold, which, on account of the enormous depreciation the silver is at present suffering and the consequent discount in the exchange, increases heavily the pecuniary obligations periodically paid by the Nation. As the subventions granted to railways and other companies of material improvements are becoming due in the course of time, those obligations gradually increase in a remarkable proportion. According to article 6 of the law of 14<sup>th</sup> of June 1883, the balance certificates that had not been redeemed during the five fiscal years previous to being issued, should be exchanged against Bonds of the consolidated public Debt, and in fulfilment of such a prescription, the exchange of those issued with priority to the 1<sup>st</sup> of July 1887 has already commenced to be made. Lastly, the term fixed in the respective contracts, so that the gradual redemption of the debts payable in London may commence to take place, will soon become due, and will, therefore, increase the yearly sum destined to the said debt; all this will necessarily carry with it a considerable increment in the obligations of the federal Exchequer.

»On the other side, in proportion of the Nation's progress, greater and more expensive services will be required as much for the collecting of its revenues as to guarantee the life and prosperity of its inhabitants, to extend primary education, to construct public works, to attend to material improvements, etc., and though these services may be of an onerous increase, it is neither easy, prudent nor patriotic to do without them.

»These circumstances, joined to the fall which the public revenues will probably have in the first months of the present economical year, principally due to the loss of the harvests during the last year and the depreciation of silver, may perhaps be the cause that the resources of the Nation suffer in the present economical year a decrease instead of having the increase which one might expect and which was obtained in the previous years, and which, while those causes exist, may not be sufficient to cover the contracted responsibilities and others of public consideration.

»When such articles of first necessity as maize, kidney beans, etc., which constitute the basis of alimentation of a great number of Mexicans, become to be dear, the greater part of our fellow-citizens, who have only small means to live on, have to spend their scanty resources in procuring the material subsistence and naturally do not buy any other articles, especially of foreign manufacture, which on one side diminishes the imports and as a consequence the duties collected by the Government, and on the other side to reduce the transactions in the home-trade which also affect the federal revenues.

»Besides, the fall in silver has been a factor, the consequences of which have been felt in a still more palpable manner. As silver is the current money of the country and the imports have to be paid in gold, the importer puts the additional charge of the exchange on the cost-price, freight, assurance, commissions and other expenses which have to be paid in gold, which makes the goods dearer and consequently puts them out of reach of a great number of inhabitants. This very circumstance, more

than any of the great fluctuations which the price of silver had during the last months, also cause the importers to suspend their orders, so as not to find themselves in the necessity of paying for the ordered goods with a considerable additional charge on account of the rise in the exchange, when they would probably have to sell them, not only without leaving any profit but even at a loss; and this naturally contributes to reduce very sensibly the orders for foreign goods and in the same proportion the duties paid to the Exchequer on those operations. However serious the consequences of the fall in silver may be for us, those produced by the sudden and great fluctuations in the price of that metal are still worse, because they completely overthrow the basis of all financial or mercantile operations. If the silver were to keep its present price for an indefinite period, we should suffer for some years more or less transcend-



Normal School

ental disorders, but we should finally bring our circumstances to a normal with those new conditions, and the great natural resources of the Nation would help to recover with less difficulty and in a more or less space of time from the disorders and losses we suffered.»

There was not any exaggeration in the diagram sketched by Mr. Romero which the events soon proved. The tremendous loss in the harvests of 1892, the consequences of which were so much felt again in 1893, in which year they were also scarce, and a heavy fall in silver, without any precedent in the history of the precious metals, would have put us on the border of the abyss, without exaggeration whatever, in which the so painfully acquired improvements, and perhaps the whole future of the Republic, would once more have been shipwrecked, without the rightly conjectured thought of the President to confide the helm of the ship in the middle of the storm to Messrs. Romero and Limantour, without his firmness to help them inconditionally and without the patriotism, intelligence and self-denial of the expert pilots.

Tempting as the undertaking may be to make a detailed history of that unfortunate period, we find ourselves to be obliged to renounce it for many reasons, amongst which the disposition and extension

of this work impose upon us to be inflexible; the sudden changes in that struggle, which cannot be abridged, hardly to be condensed in the few pages we have at our disposal, to which History will surely give one day all the importance it deserves, and in the midst of which, not only men of superior criterion, but almost the unanimous public opinion lost confidence, advised our Government, as the only remedy, a new suspension of payments, especially of our engagements in gold (1).

We shall, therefore, only say, that the crisis was saved, not by ruinous expedients nor sterile mitigations, as it was formerly done, but through radical remedies, considering the course to be taken by our general policy and particularly the financial one, by the ways that social science and political economy advised to do. There were certainly provisional remedies employed to avoid the great difficulties of the moment, as it could not be done otherwise; various advances were negotiated with the National Bank, some of them in gold, because the market for capitals in Mexico was exhausted and it was not thought right to have recourse to the eternal remedy, the devouring national jobbery; the salaries of the functionaries was reduced and other transitional remedies were adopted, but the great principles, with which the economical health of the country was perpetuated, were not for a moment lost sight of, and the transitional measures never gave rise to unsurmountable obstacles for the future movement of the Government. The golden vision of times gone bye, the redemption by purchase of the Mints, was realized, returning to the Exchequer the resources which the lessees absorbed, above all, that the Nation may recover the liberty, which it had lost for so many years, to alter the irrational imposts on precious metals; the useless employments were suppressed by hundreds; the excessive and disproportioned endowments were reduced; new sources of revenues were looked for in the rational taxing of functionaries in active service, speculations and wealth which formerly did not contribute to the public expenses; the perception of the existing imposts was regulated by means of an active and systematic vigilance, as much on the functionaries as on the contributors; discipline, order and moral duty were introduced everywhere; the accounts of the Exchequer were perfected, which since then are absolutely reliable, without fraud nor trickery; the open items or those without any determined amount, which completely covered them, were suppressed in the estimates of expenditures; and in fact, for the first time since Independency, or better, since the outcry at Dolores in 1810, the estimates were balanced in the third year of undertaking the gigantic work, that is to say, in the economical year of 1894 to 1895, and we Mexicans knew what it was to have a surplus in the public coffers, and the facts have shown us, that the economic independency, the same in public as in private life, insures before natural and strange respectability and consideration, and above all, to one's own conscience, a respect and esteem, without

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(1) Which part belonged to Mr. Romero and which to Mr. Limantour in that tremendous struggle, the forerunner of the definite consolidation of our public Treasury? The fundamental lines of the plan, that had to give such important results, are seen traced to a great extent by Mr. Romero in the document to which we have already referred, and for want of a more solid foundation, envy and other bad passions have invoked this deed in order to lessen the merits of Mr. Limantour. On the other hand, we shall not be of those who try to wrench one sole laurel from the head of Mr. Romero, when we have procured to vindicate his memory in previous pages from the charges which we believe to be unjust; but be it as it may, there is a fact which shows, that it is to Mr. Limantour the Nation owes the results obtained, and that is, that Mr. Romero left the Secretaryship of Finance in February 1893 in order to return to his diplomatic post in Washington, which he discharged with as much prudence as patriotism up to his death, leaving Mr. Limantour from then in front of the Department, first as head official or first Under-Secretary, and afterwards (on the 9th of May 1893) as Minister. Besides, whatever the influence, which Mr. Romero's ideas may have exercised on those of Mr. Limantour, may have been, the work done by the latter did not servilely adjust itself to the plans of the former, which have been extended, corrected and modified in many parts, and in any case, the merit of the execution, which in these matters is as a rule greater than that of conception, entirely correspond to Mr. Limantour, who, against that said by those bearing an ill-will that his inflexible rectitude conquered it, never had any confidential collaborators nor did he count on the assistance of persons to whom his official position did not give an intervention in public affairs. Naturally, the pre-eminent place taken amongst those persons is Mr. Robert Núñez, who as Under-Secretary, accompanies him since the 17th of May 1893 and whose name, it seemed to us strict justice, must not be left forgotten, in spite of his retiring character and true friendship with which the author of these lines is favoured.



which there is no strength nor energy for the eternal struggles for existence, neither to resolve the timorous problems which forebly rise before nations which do not wish to fall.

And after making such a laconic synthesis, let us put a stop to this part of our work and pass on describing our actual financial system on its fundamental lines and the state in which the principal branches of the Public Treasury continue to be. To this effect, and having recourse in some parts to the dry system of the administrative memorials, so as to be short, let us be allowed to divide the rest of our work in parts under special headings, putting in each of them some figures, which, like mile-stones, will mark with its silent eloquence, better than many words, the beaten track and height reached after the painful *via crucis*, which lasted almost three quarters of a century.

## SECOND SECTION

### FINANCIAL ORGANIZATION OF THE REPUBLIC. STATE OF THE PUBLIC TREASURY AT THE BEGINNING OF THE XX CENTURY

**F**ISCAL CONNECTIONS BETWEEN THE FEDERATION AND THE STATES.—Corresponding to the system of political organization in a federal Republic, the Mexican Treasury may be considered to be divided in two great branches: the local one or that of the States and that of the Federation.

In introducing for the first time the federative system with the Constitution of 1824, the distribution of the revenues and imposts, till then in force, between the central or federal government and the local ones or those of the States, seemed to be indispensable, and to this effect the law of the 4<sup>th</sup> of August was enacted, to which we alluded in its place. As it was only natural, this matter had afterwards the same destiny as the political system of the country, and in consequence of which, the revenues were alternatively centralized or divided between the Federation and the States during our internal revolts according to the prevailing regimen.

Already under the dominion of the Constitution of 1857, two laws were published, called «the classification of revenues,» one on the 12<sup>th</sup> of September of the same year and an other on the 30<sup>th</sup> of May 1868, at the restoration of the Republic. This is certainly not the proper place to discuss the question relative to the constitutional efficacy of these laws, which, being only sanctioned by the federal Congress, do not form any part of the covenant of union between the grouped entities. Neither is it the place to examine the constitutionality of all the precepts which expressly restrict the faculties of the States in the matter of imposts, and therefore we shall have to limit ourselves to say, that from these restrictions, some of them proceed from the federal covenant and are therefore of an incontestable observance, while others only have been sanctioned by by-laws; in spite of which, be it because these may derive from the implicit faculties conceded to the Federation, as some sustain, or be it because, as others say, our actual political system is characterized by a submission to the central power sanctioned more by facts than by the Constitution, it is certain, that all those restrictions are observed in practice and are in general beneficial.

To the first category, that is to say, to the prohibitions which the Constitution imposes on the States in the matter in which we are taken up, we must refer, before all, to those assigned by the articles 111, 112 and 124 of the Constitution, consistent with which, and according to the reform made in 1896, «it is a special faculty of the Federation to burden the goods which are imported or exported, or pass as transit through the national territory, as well as to regulate, for the sake of security or policy, the circulation in the interior of the Republic of all classes of effects, whatever its place of origin may be.» In consequence of which it is absolutely prohibited to the States: «to burden the transit of persons or things that cross the territory; to prohibit or to burden directly or indirectly any national or foreign



goods in entering or going out of its territory; to burden the circulation or the consummation of national or foreign effects with imposts, the exaction of which is done by local custom-houses, that require an inspection or the examining of parcels or demands the documents which accompany the goods; and to issue or keep in force fiscal laws or dispositions concerning differences of imposts or requisites, by reason of the origin of national or foreign goods, be it that this difference is enacted in consideration of a similar production of the locality or be it between similar productions of distinct origin.»

Neither may the States «coin money, issue paper money, *estampillas* nor stamped paper, nor issue Bonds of a public debt payable in foreign money or out of the national territory, to make direct or indirect loans with foreign governments or enter into any obligations in favour of foreign companies or private individuals, when Bonds to bearer or transferable by endorsement have to be issued.»

Finally, the States may not, without the permission of the Congress of the Union, «enact tonnage nor any other port-dues, neither impose contributions nor duties on importations or exportations.»

Of the limits enacted by by-laws, the principal one is that which assigns that of June 1887, according to which the States cannot burden mining with imposts exceeding 2 per 100 of the extracted metal, nor the offices where silver is worked with more than 6 per mill of its value; but there exist some others, as for instance that of colonization, of the 15<sup>th</sup> of December of 1883, which exempts the settlers of every kind of imposts for ten years, «except those of the municipality,» and also limit the right of the States to impose taxes or burdens in certain cases.

In conclusion on this matter, we may say, that also according to the by-laws, the States receive a third part of the price at which the Federation transfers unappropriated land belonging to it, that the Municipalities of the ports and frontier cities receive sometimes an additional 1 and  $\frac{1}{2}$  and at others 2 per 100 on the import duties which the General Ordinance of Custom-Houses enacts, and that the Federation receives successively a certain percentage on all the taxes which the States collect, as a general impost. This percentage has generally been 25 (for which reason this impost is called «the federal fourth»), though from 1892-93 to 1901-902 it rose to 30: it has the additional character to the payments which are made to the States and are paid in *estampillas*, stuck on the receipt or acquittance which the former issue to the payers. This has been the practical form, at the bottom equitable, given to the payment of the «contingent» assigned to the States from the beginning of our Federation, as we have seen in its place, and which has avoided the frequent conflicts its collecting occasioned, and which more than once assumed the character of political questions between the federal powers and the States.

STATE TREASURY.—Now in giving an account of the financial system in force in the States, we may say, that as a general rule there is a predial tax or impost, based on the value of rural and urban property and others commonly called «privileged» and of «sales by retail,» which fall on commerce and its transactions. Besides these imposts, the States which have mines in their territories,—and nearly all have them,—tax gold and silver mining with the maximum rate authorized by the federal law, and not a few of them still preserve the personal impost or poll-tax, vestige of the old tribute in pre-cortesian times, which the colonial government kept up.

Besides these taxes there exist the municipal imposts, which fall, in general, on the *octroi*, as for instance, the slaughter-houses, baker shops and other branches.

The following diagram, formed in consequence of the data given in the «Statistic Annual of 1902,» lately published by the Secretary of Encouragement, gives an idea of the revenues and expenditures of the States and their municipalities:

## Revenues and expenditures of the States and the Municipalities of the Republic

ANNUAL AVERAGE IN THE SPACE OF TEN YEARS FROM 1893 TO 1902 INCLUSIVE

STATES	STATES		MUNICIPALITIES		TOTAL	
	REVENUES	EXPENDITURES	REVENUES	EXPENDITURES	REVENUES	EXPENDITURES
Aguascalientes . . . . .	\$ 123,913	122,866	91,574	89,792	215,487	212,658
Campeche . . . . .	" 327,970	310,607	132,602	117,934	460,578	428,631
Coahuila . . . . .	" 407,934	385,386	590,582	573,108	998,516	958,494
Colima . . . . .	" 139,204	135,551	64,687	63,903	203,891	199,454
Chiapas . . . . .	" 466,833	461,621	181,373	174,513	648,206	636,134
Chihuahua (1) . . . . .	" 762,503	742,524	563,627	543,853	1,326,132	1,286,377
Durango (2) . . . . .	" 967,397	928,597	"	"	967,397	928,597
Guajuato . . . . .	" 1,273,811	1,353,126	665,141	666,285	1,938,952	2,019,411
Guerrero . . . . .	" 402,321	374,724	139,997	119,582	542,318	494,306
Hidalgo . . . . .	" 1,304,110	1,362,692	502,426	487,708	1,896,536	1,850,400
Jalisco . . . . .	" 1,439,787	1,463,605	638,373	641,176	2,078,160	2,105,041
México . . . . .	" 1,006,618	988,018	370,417	350,243	1,437,035	1,338,261
Michoacan . . . . .	" 1,049,817	1,006,773	385,644	363,415	1,435,461	1,370,188
Morelos . . . . .	" 390,880	384,255	150,176	144,628	541,056	528,883
Nuevo León . . . . .	" 247,955	233,080	477,573	467,094	725,528	701,054
Oaxaca . . . . .	" 916,749	881,864	326,626	300,204	1,243,375	1,185,068
Puebla . . . . .	" 1,172,182	1,146,870	708,270	732,577	1,940,454	1,879,447
Querétaro . . . . .	" 338,782	335,266	96,739	85,768	435,521	421,054
San Luis Potosí . . . . .	" 988,700	895,048	295,791	296,390	1,284,491	1,192,338
Sinaloa . . . . .	" 510,039	500,672	531,533	538,329	1,041,572	1,039,001
Sonora . . . . .	" 587,983	574,260	374,808	360,951	962,791	944,211
Tabasco . . . . .	" 380,001	374,774	193,796	188,761	573,797	563,535
Tamaulipas . . . . .	" 231,404	219,390	397,101	387,732	628,505	607,131
Tlaxcala . . . . .	" 210,544	207,480	48,232	48,043	258,776	255,522
Veracruz (3) . . . . .	" 960,612	893,133	2,049,826	2,880,346	3,910,438	3,742,470
Yucatan . . . . .	" 935,206	930,532	352,753	352,839	1,287,959	1,283,371
Zacatecas . . . . .	" 1,117,391	1,115,330	429,255	421,562	1,546,646	1,536,892
Districto Federal (4) . . . . .	"	"	4,010,870	3,952,602	4,010,870	3,952,602
Tepec Territory . . . . .	"	"	235,531	228,187	235,531	228,187
Territory of Lower California . . . . .	"	"	85,230	79,721	85,230	79,721
TOTAL (5) . . . . .	\$ 18,810,855	18,284,992	16,050,713	15,675,266	34,853,568	33,960,048

(1) Average of 8 years from 1893 to 1900. Particulars are wanted for 1901 and 1902.

(2) The State of Durango has its municipal receipts not separated.

(3) Average of 9 years. Particulars are wanted for 1902.

(4) The administration of the municipal revenues and expenditures of the Federal District is in charge of the Federation since the fiscal year of 1903-904, and for this reason its receipts and expenses have been incorporated in the federal estimates.

(5) The average of the federal revenues during the ten years, which embrace this diagram, was \$ 55,000,000 in round figures, which brings the figure of the total annual tribute of the Republic to \$ 90,000,000; from which it follows, that every one of the 13,900,000 inhabitants of the nation pays over \$ 6.47 in taxes of every kind per annum.

As it will be seen by the preceding diagram, the estimates of the States and those of the Municipalities of the Republic are generally balanced or with a slight surplus. However, some of them have still some unsettled or non-consolidated debts, which are the result of passed deficits, and others, as San Luis Potosí and Jalisco, present some important liabilities in gold, contracted before this class of transactions was constitutionally prohibited to the States in 1901, the proceeds of which were employed in urban improvements in their respective capitals.

Besides, Tamaulipas and Veracruz have issued special silver Bonds for the improvement and drainage of the ports of Tampico and Veracruz, the interest of 5 per 100 being paid by the Federation during twenty five years, as well as their redemption, for which an additional 2 per 100 of the import duties, paid in those ports, is assigned.

FEDERAL TREASURY. REVENUES.—The revenues of the Public Treasury of the Federation are divided since 1804 to 1895, into four great groups. The first one, under the title of *imposts on the exterior commerce*, embraces: import duties, export duties on national timber for building and cabinet-work, mulberry and dye-wood and transit on foreign timber; export duties on the root of *sacate* (a Mexican grass), *chicle*, archil, leaf of the maguey, leaf of the *iatle* and untanned hides and skins; transit duties; dues on tonnage and additional tonnage; loading and unloading dues and interior maritime traffic; duties and retributions collected for the interior service of the ports, for keepers and warehousing, for the right of navigation, pilotage, for Bill of health; duties collected by the Consuls, Vice-Consuls, commercial and consular agents of the Republic and duties for certificates issued by the Mexican Ministers and Consuls abroad.

The second, which embraces the *imposts created in the whole Federation*, includes: general stamp-duty on warrants, documents and contracts; federal contribution taken on whole numbers at the collecting offices of the States and Municipalities; imposts on funds and mining property; stamp-duty of 3 per 100 on gold and silver; imposts on manufactured tobacco; impost on spirits; impost on yarn and cotton texture; impost on certifying signatures; duty on coining, refining, smelting and assaying; tax on trade marks, patents and a yearly impost of 2 per 100 on the amount of the cash capital of Discount Banks established in the States and federal Territories after establishing an other Bank of the same kind in the same Territory or State.

The third includes the *imposts created in the District and federal Territories* and embraces the following imposts: tax on landed property in the District and Territories; tax on professions and lucrative employments; duty on patents; tax on furnaces used for the elaboration of farinaceous produce subject to coction; tax on *pulque* (aloe liquor); services, imposts and duties referring to municipality (1); bulk duty in Lower California; imposts on successions and donations; a 6 per mill duty on the value of landed property and metallurgic establishments in the District and federal Territories; duty on inscriptions, cancellations, annotations and attestations in the Public Register of Property and Commerce.

Lastly, the *public services, utilities and various branches* (2) embrace: the proceeds of the Post-office, telegraphs, of the arsenal and floating-dock of Veracruz, as well as of the ship-launching place of Guaymas; the net proceeds of schools, offices and industrial establishments kept up by the Federal Government, as well as of the publications made for account of the same Government; proceeds of nationalized property; for the lease and sale of unappropriated and national lands; for the lease, sale or exploration of woods, salt-mines, guano-deposits and landed-property of the Federation; proceeds of capital, income, shares, rights and other properties, which, by whatever title, may belong to the Federation; proceeds of the national Lottery; fines imposed according to the federal laws or by order of any authority dependent on the federal Government; premiums for the placing of funds; proceeds of the tax on fishery of pearls, whales, sea-otters, sea-wolves, etc.; transfers and donations in favour of the Exchequer; residues of credits, federal imposts and proceeds not collected in previous years; profits arising from the redemption of the public debt; reintegration of balances or liquidation of accounts, or of any other obligation, which, according to law, correspond to the federal Exchequer.

FORMATION OF THE ESTIMATES AND AUDITING OF THE ACCOUNT. — According to our Constitution, which on this point has followed the good political and economic principles, the Executive has to present and presents to the House of Representatives on the 14<sup>th</sup> of December of each year through the Secretary of Finance, the plan of estimates of expenditures for the following fiscal year, the proposed necessary imposts in order to cover them and the account of the Public Treasury corresponding to the previous fiscal year. All these documents pass to a Commission formed of five members, elected during the same session and are studied during the recess of Congress, having to present its decision precisely in the second session of the second period of the legislative sessions, i.e. on the 2<sup>nd</sup> of April of each year. That time is preferentially devoted to the examination and discussion of those decisions, and it has to be observed, that the approbation of the estimates of expenditures exclusively corresponds to the House of Representatives and that of the revenues to this and that of Senators. With regard to the account of the federal Treasury, its revision also belongs in an exclusive way to the popular House, which has to limit itself to the investigation, if during the year it embraces all the decreed imposts, and only they, have been collected, and whether only the authorized expenses in the estimate of expenditures and laws posteriorly given were made. If the result of this revision of the annual account is favourable, the House of Representatives

(1) From the 1<sup>st</sup> of July 1903, the Treasury of the municipalities of the city of Mexico and Federal District has been incorporated with the Treasury of the Federation, which has taken charge of the municipal services, confining itself in much, as it is natural, to the functions of the former town-corporations.

(2) This group was already subdivided in three in the last estimates.

VOLUME SECOND

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History of Public Finances

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**Veracruz.—Customs-pier and English steamer ‘Tampican’**

THE FIRST WITH BROADSIDE ON THE SAME, JUNE 30<sup>th</sup> 1898



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approves it; in the contrary case, the matter falls under the competence of one of the sections of the national Grand Jury, who, listening to the Secretary of Finance in the manner of a veritable tribunal, consults the House as to its responsibility or absolution. All the other particulars of the account are examined by a «supreme Auditorship of Finance and public Credit,» which is dependent on the House of Representatives and which fittingly makes the technical comments of the account of the federal Treasury, giving the corresponding quittance to the Treasurer general, or referring the matter to the competent courts of justice for them to filter and exact the responsibilities according to the case.

Such is our system of forming the Estimates and examining the accounts; and if we consider, that the fiscal or economical year commences on the 1<sup>st</sup> of July of an ordinary year and finishes on the 30<sup>th</sup> of June of the following, it must be acknowledged, that it is sufficiently perfect and that it does not as a rule present the inconveniences of that of other nations, be it in the manner of an excessive anticipation in preparing the Estimates, which impedes foreseeing many of the public necessities, always changeable, or be it for the want of time to form the account of the previous year.

We have already said, our estimates and accounts have up to recent dates been rather imperfect: the former, because they contained, in the way of «annotations,» open authorizations to spend amounts not assigned and even to apply to an object the sums which would not be spent by an other; and the latter, because they embraced numerous potential items, which prevented to know the real result of the account and had almost always for its object to dissimulate with more or less ingenious contrivance, the eternal annual deficit.

The complete correction of these abusive defects is due to Mr. Limantour, and since he took charge of the Secretaryship of Finance, we know with exactitude and in reality which are the foreseen and authorized expenses in which the public money is employed, and which is, year by year, the state of our Exchequer. Thanks to this system, the implantation of which is not one of the least services which the Nation owes to the eminent Minister, it has been possible to know the real proceeds of the federal imposts and the exact amount of expenses of every branch of administration. With this knowledge came the introduction of important economies, the establishing of new branches of revenues and, in one word, to reach the most important end of balancing the estimates, a thing which seemed to be impossible in this poor country, victim of so many errors and falsehoods.

PROCEEDS OF THE PRINCIPAL FEDERAL IMPOSTS.—It would be very interesting to present the reader with a study that would give him an idea, though it were brief, of the basis and mechanism of every one of our imposts; we, nevertheless, are of opinion, that this would lead us too far and we, therefore, renounce to undertake such a task, though with great sentiment, as it would be out of its place in these pages, which are destined to specialists. We will, however, place before our readers successively a diagram showing the yearly produce of our four great groups of revenues during the years of 1892-93 to 1902-903, so as to be able to judge by themselves of the progress made:

ORDINARY cash Revenues of the Federal Treasury during the past ten fiscal years from 1892-93 to 1902-903

	1892-93	1893-94	1894-95	1895-96	1896-97	1897-98	1898-99	1899-900	1900-901	1901-902	1902-903
Contributions on imports and exports . . . . .	\$ 17,710 648 00	17 058 977 22									
Inland Contributions . . . . .	15 071 051 01	18 598 807 05									
Public Services . . . . .	1 687 802 76	1 744 768 24									
Products and various utilities . . . . .	3 209 206 41	2 472 061 72									
Imposts on foreign Commerce . . . . .	19 870 097 81	23 058 692 61	23 639 580 97	28 281 989 17	28 738 480 45	29 945 769 04	28 184 365 15	28 792 551 60	34 784 080 55		
Inland imposts produced in the whole Federation . . . . .	17 590 608 22	20 418 849 54	21 089 107 27	22 925 702 31	24 505 184 61	26 201 406 14	26 452 781 80	28 105 755 35	31 508 088 42		
Imposts only produced in the Federal Districts . . . . .	3 378 814 48	3 387 611 81	2 705 761 11	2 764 408 41	2 584 505 01	3 280 630 91	3 281 076 02	3 413 270 06	3 616 224 69		
Public services, utilities and various branches . . . . .	3 095 298 75	3 086 317 46	3 560 670 46	3 892 294 66	3 840 742 71	4 899 246 36	4 829 990 65	5 595 501 51	6 115 072 15		
TOTAL . . . . .	\$ 57,692,269 3	60,211,717 13	69,549,005 05	80,221,470 42	81,495,028 77	82,697,284 53	80,129,212 81	84,281,076 30	93,998,804 69	96,147,018 72	76,022,416 11



As it will be seen by the preceding diagram, the cash produce of the revenues has increased from a little less than \$ 37,700,000 to more than \$ 76,000,000 in the course of only ten years, that is to say, it has more than doubled itself, almost reaching an increase of 100.8 per 100; a result, which, considering that some imposts decreed between 1892 and 1894 were abolished and that others were reduced, has to be attributed exclusively to the efficacy in the collecting of them and to the remarkable increase of public wealth in general, the fact being worthy of note, that the Republic, without any difficulties nor disturbances, and it might almost be said without feeling, nor being able to give any account of it, has doubled its abilities of contribution in only ten years, allowing good ground for reflection, which the discreet reader is to make, and which will surely be to the honour of the people and government of this country.

The following diagram, which shows the progress made by the stamp-duty since its enactment to date, is also very interesting and suggestive; though it embraces now many branches and manipulations which at the beginning it did not have, it does not take away its character as an inland revenue, the collecting of which is made in *estampillas*:

PROCEEDS OF THE STAMP-DUTY FROM ITS COMMENCEMENT TO THE FISCAL YEAR OF 1902-903

January to June 1875:	\$ 1,097,668.28	Fiscal year of 1889-1890	\$ 8,962,546.90
Fiscal year of 1875-1876	» 2,414,554.51	» » 1890-1891	» 9,161,665.42
» » 1876-1877	» 2,641,519.20	» » 1891-1892	» 9,266,109.50
» » 1877-1878	» 3,160,376.46	» » 1892-1893	» 11,046,186.99
» » 1878-1879	» 3,249,656.28	» » 1893-1894	» 14,445,800.26
» » 1879-1880	» 3,706,409.50	» » 1894-1895	» 15,492,096.40
» » 1880-1881	» 3,842,879.67	» » 1895-1896	» 18,058,630.88
» » 1881-1882	» 4,203,687.37	» » 1896-1897	» 19,948,271.29
» » 1882-1883	» 4,573,424.79	» » 1897-1898	» 21,471,282.88
» » 1883-1884	» 4,773,214.27	» » 1898-1899	» 23,178,587.68
» » 1884-1885	» 6,155,087.79	» » 1899-1900	» 24,827,225.16
» » 1885-1886	» 5,877,458.41	» » 1900-1901	» 25,140,734.13
» » 1886-1887	» 7,538,150.51	» » 1901-1902	» 26,936,788.41
» » 1887-1888	» 7,949,268.98	» » 1902-1903	» 29,728,360.92
» » 1888-1889	» 8,755,542.57		

The following diagrams, taken from one of the recent publications of the Commission, appointed by the Secretary of Finance, for the study of the monetary problem in Mexico, are also of great interest:

ESTATES which show the number of houses of the city of Mexico, their annual rents, its declared value and the amount of the predial contribution produced during the last years.

NUMBER OF HOUSES

YEARS	NUMBER OF ESTATES	DECREASE IN PROPORTION TO THE PREVIOUS YEAR		INCREASE IN PROPORTION TO THE YEAR 1891-92	
		Absolute	Proportional	Absolute	Proportional
1891-92 . . . . .	8,883				
1892-93 . . . . .	9,025	142	1.49 %	142	1.49 %
1893-94 . . . . .	9,175	150	1.60 %	292	3.28 %
1894-95 . . . . .	9,399	224	2.44 %	510	5.71 %
1895-96 . . . . .	9,413	14	.14 %	530	5.87 %
1896-97 . . . . .	9,439	26	.27 %	559	6.25 %
1897-98 . . . . .	9,586	147	1.55 %	703	7.01 %
1898-99 . . . . .	9,707	121	1.26 %	824	8.27 %
1899-900 . . . . .	9,930	223	2.29 %	1,047	11.78 %
1900-901 . . . . .	10,300	430	4.33 %	1,477	16.62 %
1901-902 . . . . .	10,602	242	2.33 %	1,719	19.34 %
1902-903 . . . . .	11,024	422	3.97 %	2,141	24.08 %

## YEARLY RENTS

YEARS	ANNUAL RENTS	INCREASE IN PROPORTION TO THE PREVIOUS YEAR		INCREASE IN PROPORTION TO THE YEAR 1891-92	
		Absolute	Proportional	Absolute	Proportional
1891-92 . . . . .	\$ 10,208,559 84				
1892-93 . . . . .	» 10,540,736 28	\$ 332,176 44	3.25 %	\$ 332,176 44	3.25 %
1893-94 . . . . .	» 10,974,181 40	» 433,445 12	4.11 »	» 765,621 56	6.97 »
1894-95 . . . . .	» 11,245,338 12	» 271,156 72	2.47 »	» 1,036,778 28	9.44 »
1895-96 . . . . .	» 11,487,901 18	» 242,563 06	2.16 »	» 1,279,401 34	11.65 »
1896-97 . . . . .	» 11,915,434 20	» 427,473 11	3.72 »	» 1,708,874 35	15.55 »
1897-98 . . . . .	» 12,387,168 35	» 471,734 16	3.93 »	» 2,178,608 61	19.83 »
1898-99 . . . . .	» 12,893,240 08	» 506,080 63	4.08 »	» 2,684,680 24	24.46 »
1899-900 . . . . .	» 13,687,918 14	» 794,669 06	6.16 »	» 3,479,358 30	31.70 »
1900-901 . . . . .	» 14,500,936 20	» 813,018 15	5.93 »	» 4,292,376 45	39.11 »
1901-902 . . . . .	» 15,466,135 55	» 965,199 26	6.65 »	» 5,257,575 71	47.90 »
1902-903 . . . . .	» 16,714,422 72	» 1,248,287 17	8.07 »	» 6,505,862 88	59.28 »

## VALUE DECLARED

YEARS	VALUE DECLARED	INCREASE IN PROPORTION TO THE PREVIOUS YEAR		INCREASE IN PROPORTION TO THE YEAR 1891-92	
		Absolute	Proportional	Absolute	Proportional
1891-92 . . . . .	\$ 99,231,798 16				
1892-93 . . . . .	» 104,708,074 42	5,476,276 24	5.51 %	5,476,276 24	5.51 %
1893-94 . . . . .	» 110,655,131 00	» 6,249,357 18	5.96 »	» 11,723,633 42	11.81 »
1894-95 . . . . .	» 116,638,991 89	» 5,983,560 20	5.12 »	» 17,407,193 71	17.54 »
1895-96 . . . . .	» 120,966,867 20	» 4,327,875 40	3.71 »	» 21,735,069 11	21.90 »
1896-97 . . . . .	» 126,057,853 87	» 4,090,986 58	3.38 »	» 25,826,055 69	26.02 »
1897-98 . . . . .	» 130,338,286 62	» 5,280,426 75	4.22 »	» 31,106,482 44	31.34 »
1898-99 . . . . .	» 137,402,273 99	» 7,063,993 37	5.41 »	» 38,170,475 81	38.46 »
1899-900 . . . . .	» 146,276,659 29	» 8,874,385 30	6.45 »	» 47,044,861 11	47.40 »
1900-901 . . . . .	» 157,181,071 75	» 10,904,412 46	7.45 »	» 57,949,273 57	58.39 »
1901-902 . . . . .	» 161,950,991 04	» 4,769,920 10	3.03 »	» 62,719,193 76	63.20 »
1902-903 . . . . .	» 167,257,994 29	» 5,307,002 35	3.27 »	» 68,026,196 11	66.53 »

## PROCEEDS OF IMPOSTS

YEARS	PROCEEDS OF IMPOSTS	INCREASE IN PROPORTION TO THE PREVIOUS YEAR		INCREASE IN PROPORTION TO THE YEAR 1894-95	
		Absolute	Proportional	Absolute	Proportional
1894-95 . . . . .	\$ 1,188,409 68				
1895-96 . . . . .	» 1,239,338 09	50,929 38	4.29 %	50,929 38	4.29 %
1896-97 . . . . .	» 1,327,483 63	» 88,143 69	7.11 »	» 130,072 67	11.70 »
1897-98 . . . . .	» 1,381,440 16	» 53,957 45	4.06 »	» 193,930 42	16.24 »
1898-99 . . . . .	» 1,465,141 05	» 83,701 55	6.06 »	» 270,731 97	23.28 »
1899-900 . . . . .	» 1,561,556 51	» 96,414 80	6.58 »	» 373,146 93	31.39 »
1900-901 . . . . .	» 1,695,908 60	» 134,352 09	8.50 »	» 507,498 82	42.70 »
1901-902 . . . . .	» 1,855,943 06	» 160,035 09	9.43 »	» 667,534 01	56.17 »
1902-903 . . . . .	» 2,005,738 75	» 149,795 06	8.07 »	» 817,399 07	68.77 »

EXPENDITURES OF THE FEDERATION.—For the general intent of the expenditures, the estimates are divided in ten great chapters or branches, of which the first three assign the expenses caused by the supreme powers of the Federation, viz: legislative, executive and judicial, and the remaining seven caused by each of the Secretaryships or Ministries, with the services to their charge. To be more distinct, some of these great chapters or branches are divided into various subdivisions, as that of the Interior (1<sup>st</sup> part, Public Health and rural Police; 2<sup>nd</sup>, political and municipal Administration of the District; 3<sup>rd</sup>, political and municipal Administration of the federal Territories), that of Justice and Public Instruction (1<sup>st</sup> part, ordinary Justice of the District and federal Territories; 2<sup>nd</sup>, Public Instruction) and that of Treasury (1<sup>st</sup> part, administrative Services; 2<sup>nd</sup>, Public Debt). Besides, the expenses of one and the same category are grouped to form sections and each item carries a special number. These divisions and subdivisions are not unprofitable: they are for the purpose of facilitating the organization of account-keeping, for within every branch a special account of each section is kept and within this one of each item; which prevents, that the sum reserved to a specific object is employed for an other purpose, and permits the general Treasury easily to check, if the orders of payment, which the Secretaries draw to the debit of a certain item of their respective estimates, fall or not within the authorized sum. In the negative case, the Treasury suspends the execution of the order and makes the suitable observation; but if that is repeated, it has to discharge its duty in

informing the House of Representatives in order to save its responsibility, which otherwise is consolidated with that of the Secretary of State, who orders a payment of a larger sum than that authorized in the estimates of expenditures.

Although the Constitution gives the two Houses, forming the Congress of the Union, the faculty of «creating and suppressing public employments and appoint the functionaries,» and, therefore, no alteration whatever ought to be made in the estimates of expenditures, which are only prepared and sanctioned by the House of Representatives, to the staff in public offices and to the remuneration of its functionaries, it is nevertheless true that it is not acted upon, and that the estimates of expenditures contain from year to year numerous modifications as much in the staff as in the salary. This irregularity has not been able to be rooted out, as many others from which our estimates of expenditures suffered, and which, as we have already said, have been corrected under the well aimed and wise administration of Mr. Limantour: probably the circumstance, that the wants of the administrative service in all its branches are still conspicuously changeable with us, and much more inconstant than with other nations, has been part of keeping it up, for we have not as yet come out of the period of organization. When we have once left it behind, our administration, fixed on a basis of a certain uniformity, which, though laboriously, is making rapid progress, this vicious practice will cease, which is one of the few vestiges that remain in the estimates from our infinite and old disorders.

There is nothing more proper to reflect on the progress of the Public Treasury, and even to trace the course which a nation generally takes in its development, than the scrupulous and careful examination of the various branches of its estimates of expenditures, a true revealer of all the good and bad which passes in public business and which, by the aid of figures, shows the relative importance given by the government to popular instruction, to material improvements, to military institutions and police, etc., etc.

Although without many details, but only composed of items of the estimates of expenditures, we give here a diagram referring to the last five years, showing the percentage actually spent in each of the said branches:

	1898-99	Per cent	1899-900	Per cent	1900-901	Per cent	1901-902	Per cent	1902-903	Per cent
1st—Legislative Power . . . . .	\$ 972,455 79	1.818	972,691 25	1.698	991,210 72	1.651	1,091,149 49	1.789	1,199,911 25	1.418
2nd—Executive . . . . .	71,949 22	0.198	71,277 15	0.197	122,031 98	0.207	159,165 96	0.292	279,388 01	0.469
3rd—Judicial . . . . .	433,985 51	0.812	443,771 01	0.784	495,799 24	0.896	503,549 81	0.794	401,592 89	0.586
4th—Secretary of Relations . . . . .	498,245 38	0.955	550,787 17	0.911	593,397 13	1.014	1,019,980 34	1.618	820,178 25	1.352
5th— » of the Interior . . . . .	3,618 87	0.007	3,529 22	0.007	4,311 50	0.008	4,909 91	0.008	5,014 93	0.008
6th— » of Justice and Public Instruction . . . . .	2,550,855 08	4.922	2,580,059 70	4.699	2,857,003 46	4.876	3,194,155 13	4.998	3,865,979 32	5.096
7th— » of Encouragement, Colonization and Indust . . . . .	798,512 08	1.576	1,152,278 64	1.986	1,100,869 14	1.897	1,098,785 64	1.696	1,053,836 08	1.566
8th— » of Communications and Public Works . . . . .	6,079,205 44	11.898	6,737,029 92	11.555	7,944,485 32	13.370	8,946,391 55	14.848	8,811,493 45	13.923
9th— » of Finance and Administr. Services . . . . .	4,292,764 32	8.404	4,586,140 32	8.283	6,601,718 90	11.078	7,036,665 19	11.165	7,553,241 55	11.929
10th— » Public Credit, Public Debt . . . . .	20,038,538 55	39.468	21,612,195 05	37.053	20,165,742 59	33.683	20,599,959 92	32.614	21,289,895 04	35.606
11th— » of War and Navy . . . . .	12,185,081 49	23.776	18,401,864 38	32.984	13,753,092 15	24.177	14,925,748 18	22.710	14,992,459 25	21.979
AMOUNTS . . . . .	\$ 58,499,541 91		58,309,934 08		70,420,005 75		83,081,519 73		88,222,522 20	

DEFICIENCIES.—This would be the proper place to complete the diagram of our deficiencies, seeing that we have given to our readers on previous pages, taken from the stupendous Financial Memorial of 1870, the extract of those we had up to the restoration of the Republic in 1867. As to the posterior period, no such work has yet been executed, as far as we know, with a sufficient judicious spirit to inspire confidence, nor have we been able to undertake it ourselves on account of the pressure of time at our disposal, for as much as the statements and accounts previous to 1892-93, though all of an official character, seem at first sight to be incredible, present such clearly erroneous figures and such frequent and singular contradictions, that it is impossible to give them any credit without a previous depuration. It is, therefore, preferable, not to present the reader with figures that would mislead him and only record, that the annual average of the deficit can be estimated at \$ 6,000,000 up to 1867, according to the conscientious works of Mr. Matthias Romero.—If we were compelled to give an opinion on the posterior period, we would say, but only referring ourselves to the opinion of competent persons versed in these matters, and perhaps to our personal remembrance of facts which have come before us or in which we have more or less intervened, that the average of the deficit between 1867-68 and 1892-93 must not have been less than \$ 3,000,000.

VOLUME SECOND

History of Public Finance

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**Sonora. — Custom-house at Nogales**

(FROM A PHOTOGRAPH OF WAITER'S)









**SURPLUSES. TREASURY RESERVE.**—The fiscal year of 1894-95 showed for the first time in our history as an independent nation, or rather since the war of independence broke out in 1810, a surplus in our public revenues, which important and unusual fact, hardly feasible to believe in, the nation received with exhilaration. In fact, the ordinary revenues of that memorable year amounted to \$ 43,945,699.05, while the expenditures, also ordinary, only came to \$ 42,838,652.69, leaving a surplus of \$ 1,113,046.36.

From then till now, the feable spectre of the *annual deficit*, with its retinue of ruinous expedients, injustice in contribution and even the sacrifice of independency and dignity of our governments, has disappeared, and the surplus, more or less considerable, has continued, as it will be seen by the following diagram:

FISCAL-YEARS	ORDINARY REVENUES COLLECTED	ORDINARY EXPENDITURES PAID	SURPLUS OF REVENUES	PROPORTION
1894-1895	\$ 43,945,699.05	\$ 42,838,652.69	\$ 1,113,046.36	2.60 pour 100
1895-1896	» 50,521,470.42	» 45,070,123.13	» 5,451,347.29	12.11 » »
1896-1897	» 51,500,628.75	» 48,330,505.25	» 3,170,123.50	6.25 » »
1897-1898	» 52,697,984.55	» 51,815,285.66	» 882,698.89	1.70 » »
1898-1899	» 60,139,212.84	» 53,499,541.94	» 6,639,670.90	12.41 » »
1899-1900	» 64,261,076.39	» 57,914,687.85	» 6,316,388.54	10.90 » »
1900-1901	» 62,998,804.63	» 59,423,005.75	» 3,575,798.88	6.02 » »
1901-1902	» 66,147,048.72	» 63,081,513.73	» 3,065,534.99	4.86 » »
1902-1903	» 76,023,416.11	» 68,222,522.20	» 7,800,893.91	11.43 » »

The problem, as to the adjudging of the annual surplus, entirely new with us, was the object of special consideration from the time it commenced to acquire a certain importance, and what we might call the financial policy, was designed by Mr. Limantour in his initiatory step of estimates corresponding to the year 1897-98:

«The liquidation of these fiscal years, balancing with a considerable surplus in the revenues with regard to the estimates of expenditures and additionals, has put the Nation in a condition to undertake indispensable reforms, which have been put off from former years, on account of the financial and economic difficulties that stood in the way of the forward move of the country. From a fiscal point of view, these reforms can be considered from two distinct tendencies: those that consist in lightening the imposts, be it in the rate itself or in the way of collecting them, and those that have for its object to favour the productive elements of the country and the services which an advanced state of civilization requires, applying to them greater resources with prudence and judgment.

»From the first point of view, the one of modifications and alleviation of the imposts, a fiscal reform of great and beneficial tendency could be realized and felt by the Nation, thanks to the surplus of resources which many generations had vainly coveted. The disappearance of the excise regimen in the whole of the Republic, has been carried out without any great agitation and without disturbing, as it was feared, the productive conditions of national wealth. It is certain, that in some of the States, the resources of the Government and Municipalities have slightly diminished; but those difficulties are transitory and have presented themselves in very few cases, this detriment being the only one worth mentioning and the importance of which is void of effect in comparison to the benefits which agriculture and industry have immediately derived from it, through the immense increase in the consumption of its products, as well as commerce through the multiplication and facility of its transactions.

»A trustworthy testimony of these plausible results is the product obtained after abolishing the excises, not only in the imposts which fall back on branches or transactions affected by the above mentioned reforms, but also in the new direct taxes decreed to substitute the resources furnished by the excise-duty and toll-tax to the federal Treasury and to the Municipalities of the District and Territories. The collecting of the said imposts has been effected under better conditions than it was anticipated, inasmuch, as some of the revenues did not decline in the proportion it was supposed they would (as for instance the federal contribution), which had forcibly to diminish with the suppression of the excise, and also through the



satisfactory proceeds obtained by the new imposts as well as on those which were increased on account of the said reform. I shall extend on this subject in an other place, giving the particulars which the accounts and statistical notes furnish up to date.

»It must also be borne in mind, that various reductions in imposts and some remission of importance have already been decreed, reforms which are again apportioned in the law of revenues proposed for the coming year. The abolition of the contribution on salaries and emoluments of federal functionaries; that of the impost which weighed on the salaries of clerks in general; that of the stamp-duty, taxing the advertisements and notices published in the Newspapers, the entrance-fee to public entertainments and the actuations of criminal procedures; and, finally, other alterations of less importance but all favorable to the tax-payer, are already a sufficiently great relief, and show at the same time the ardent wish of the Government to conciliate, by every possible means, the interests of the constituents with the necessity of expansion of many of the public services, which becomes daily greater. This alleviation of taxes is at all events the most earnest and positive effort which has in that sense been made in our country.

»The innovations under consideration in the present initiative as regards to expenses, are partly only the re-establishing of assignments which formerly certain services enjoyed and of which they were deprived for some years, while the disturbing elements of the balancing of the estimates lasted; as to the rest, they represent a real progress going to be realized in the branches in which they are applied, which, by virtue of that increase of resources, will receive an impulse of which I shall try to give an idea in the part referring to this exposition. As for the only example of this class of increases in the expenses, serve those considered to give to primary education in the Federal District and Territories the development which the beginning of compulsory education requires; those that have for its object to reorganize the preventive police and the penitentiary service; the ordinance of the hydrographic map of the Republic; the improvement and extension of postal, telegraph and lighthouse service; and finally, those urging, that the numerous dispositions enacted by the Secretary of War and Navy should be carried out, with the object of putting our National Army and Navy on a level corresponding to good order, military discipline as well as knowledge and personal quality of the individuals serving in them.

»It is the opinion of the Executive, separating himself in this case from the theories generally admitted on this matter, that though it should not be the ideal of nations to accumulate the surplus money in public coffers, after having attended to the necessities of the administration, the case has not yet arrived in which one may say that the services of the Government are no more susceptible to a greater development by means of applying more numerous resources, nor does the Republic find itself in conditions which may permit to predict such a regular continuance of things as that of not differing its revenues and expenditures from one year to an other in any really insignificant amount.

»The elasticity of the economic constitution of our country, if we may call it so, has already been noted on various occasions, an elasticity, which, while it allows to develop itself rapidly, also permits it to overcome with relative facility the acute crisis which it had to go through. There are few nations that could present an example given by Mexico, reducing its expenses in a few months to more than 15 per 100 of the total amount of the Estimates and to increase its imposts, at the same time, in equal proportion. But to those sacrifices, which only a nation full of vitality and patriotism and under exceptional circumstances can make, has to be taken recourse only in extreme cases, and the Government procures, therefore, to guard the country against new events which may make them necessary.

»Now, as the fluctuations in the produce of the revenues and the variation in the causes that determine some of the expenses, principally that of the foreign exchange, frequently amount to considerable sums, the Executive upholds the convenience of keeping the surplus obtained in the fiscal year 1895-96 and any other that may be produced this year, creating in this way an ample margen for any unfortunate eventuality. It is not intended to keep on hoarding up riches indefinitely, as on this particular point the Executive has clearly shown his intention in the initiative of increasing the expenses and in the suppression of imposts, which he submitted to Congress in the present sessions; but there is a great difference

between an accumulation of funds for a time and of an unlimited amount, and the system of a moderate reserve, which, fluctuating, for instance, between five and ten million pesos, would be sufficient for the purpose. A reserve exceeding the said limit would be considered in the present circumstances as exaggerated, and in such a case, any future surplus would certainly be better employed if it were destined to the redemption of the Debt, as proposed on various occasions, and other measures, with the same object in view, would also have a right of admission, but on a larger scale than those which the Government has been dictating or proposing to Parliament to apply greater sums for the encouragement and development of public services in want of impulse, or be it to lighten the imposts in the best possible proportion.»

This policy acquired a concrete shape in a special initiative directed to Congress in December 1899, which, on account of its importance, we will reproduce in its most principal passages, and which are:

«The fiscal year of 1898-99, the statement of which will be presented to the House of Representatives on the 14<sup>th</sup> of this month, shows a surplus of six and a half million pesos cash in the ordinary revenues over the expenditures. Including this fiscal year, there are five which consecutively have produced an analogous result, proportioning to the public Treasury a remnant shown in the statement of cash at the Treasury and which forms the reserves the Government has at its disposal at the federal offices, at the National Bank and at the one of London and Mexico.

»In the interpretation of motives for the initiatives of Estimates for the fiscal year of 1897-98, and speaking of the surpluses obtained in the two previous years, the Secretary who certifies this, considered it convenient to constitute a reserve, for instance up to \$ 10,000,000, to be prepared for any eventuality which might deeply disturb the forecasts on which the balancing of the future estimates are based.

»From that date (December 1896), the position of the federal Treasury has gone on making progress, while the surpluses realized in the years posterior to 1896 have gradually and notably exceeded the hypothetical limit of \$ 10,000,000 spoken of in the initiatives to which I just now referred, and this being so, the opportunity has come for the Executive to think about deciding the line of conduct which in his opinion ought to be followed, in order that the generally known advantages, to keep a sufficiently large Balance in cash, as a guarantee for the future, may win over other advantages of no less importance which might be obtained by means of a judicious use made of a part of the surplus funds in works and services of public usefulness.

»To go on accumulating funds indefinitely, does not seem the most prudent policy, because the object of the State does not rest on hoarding up continually; and, on the other side, the immovability of large sums that do not earn any interest or only very moderately, would be too costly for the nation that pays interest from 3 to 5 per 100 on almost its entire public debt.

»To utilize the surpluses, that exceed a certain sum, to great advantage, there are only two settlements possible: to redeem the debt or to invest the funds in public works or services. This as regards the balances kept in cash, and as to the future, a reduction in the charges borne by the tax-payers ought to be thought of.

»The President of the Republic, to whom the undersigned Secretary gave an account of various projects showing the way of carrying out the three above mentioned objects, within a certain measure, viz: the redemption of the public debt, the execution of public works and the improvement of services of general usefulness, and, lastly, the reduction of imposts, has condescended to honour them with his approval. The consequence is, that the dispositions, within the power of the Executive, have now been dictated, i.e. those relative to the reduction or abolition of the stamp-duty on some of the contracts, warrants or documents; and as to those dispositions which belong to the legislative Power, the Initiative on the suppression of the duties, which the exportation of coffee at present produce, is remitted separately to this H. House, and with the present note I have the honour of submitting to its deliberation another project, for the Congress to authorize, if it should think it necessary, to cover the expenses of

an extraordinary character claimed by some of the branches of the Administration with a part of the reserves.

»Though the sum of four million of pesos, to which those expenses amount to, is rather important, the Treasury reserves must not, on this account, fall off to less than ten million pesos, when once invested in its object, but that they shall exceed that sum, even without taking the possible surpluses of the current fiscal year and those of the future up to 30 of June 1902, date on which the authorization solicited to make the mentioned expenses must end.

»The initiative to which this statement refers, may be considered as an innovation in our methods to establish the public expenses, for the circumstance to consign in a special form, destined to some fixed works, a certain sum of which the Executive may freely dispose of within the three fiscal years during which the authorization lasts, without limiting himself to spend in each of them a sum fixed beforehand as a maximum for the fiscal year in which the distribution is made, as long as the amount of the expenses does not exceed the total authorized for the works. The fundamental bases of our legislation concerning the estimates, are in this way conciliated, with the necessity of giving more liberty to the administration so as to put the works in order and to execute them for the good of public interest, or to give them out on contract, previous to the preparatives and studies that might be necessary.»

These opinions were accepted by both Houses, and from the mentioned fiscal year, various laws, applying part of the Treasury reserves to special expenses, which figure in the accounts under the heading of *Extraordinary Expenses*, have been enacted. In the note, with which the statement corresponding to the fiscal year 1902-903 was remitted to the House of Representatives, on the 14<sup>th</sup> of December 1903, the interesting recapitulation will be seen which follows the amount of those special authorizations and of that spent up to the 30<sup>th</sup> of June of 1903:

SUBSTANCES	AUTHORIZED EXPENSE	SPENT SINCE THE AUTHORIZATION UP TO 30 <sup>th</sup> OF JUNE 1903	REST TO BE SPENT
1. Works of the General Hospital . . . . .	\$ 2,191,590.27	1,508,433.67	683,156.60
2. General Lunatic Asylum . . . . .	» 8,409.73	8,409.73	
3. Works of the new Asylum for the Poor. . . . .	» 500,000.00	199,997.58	300,002.42
4. The Building of schools and of the Ministry of Justice . . . . .	» 1,600,000.00	634,608.12	965,391.88
5. Medical and Geological Institutes . . . . .	» 300,000.00	298,755.46	1,244.54
6. Post-Office Building . . . . .	» 2,500,000.00	1,333,458.85	1,166,541.15
7. Submarine Cables . . . . .	» 600,000.00	600,000.00	
8. Expropriations for the National Theatre Square and the Avenue of the 5 <sup>th</sup> of May . . . . .	» 1,800,000.00	1,706,995.71	93,004.29
9. War-ships . . . . .	» 2,500,000.00	1,925,108.90	574,891.10
10. Pavement of streets, water-supply and drain- age . . . . .	» 500,000.00	500,000.00	
11. Pavement of streets, water-supply, drainage and other municipal works . . . . .	» 1,463,499.43	1,463,499.43	
12. Interest due from the charitable fund of the Californias . . . . .	» 1,420,682.67	1,420,682.67	
SUMS. . . . .	\$ 15,384,182.10	11,599,950.12	3,784,231.98

These \$ 11,599,950.12, joined to the \$ 30,917,018.35, proceeds on hand on the 30<sup>th</sup> of June 1903, according to the statement which we shall presently introduce to our readers, taking it from the already mentioned note, approximately represent the surpluses had since 1894-95; we say approximately, because, as there are some rather large sums in gold, simply taken at par, represented in those cash reserves, with the object of not complicating the accounts, which are made up in silver, without any practical reason, it would be useless to attempt an arithmetical proof, the results of which would vary with the fluctuations of the premium on gold.

Political history

CONCLUSION.—THE PRESENT ERA

**Mexico.—5<sup>th</sup> of May avenue and panorama to the  
West of the town**



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CASH RESERVES ON THE 30<sup>TH</sup> OF JUNE 1903

## IN PUBLIC OFFICES

General Treasury of the Federation . . . . .	\$	320,243.89
General Administration of the Stamp-duty revenue and its subordinate offices . .	»	620,235.47
General Direction of the Custom-houses and its subordinate offices . . . . .	»	76,388.12
General Direction of the Mints and Assay offices. . . . .	»	2,612,941.21
General Direction of direct Contributions in the Federal District. . . . .	»	3,657.74
Administrations of revenues in the territories of Tepic and Lower California . .	»	7,564.05
Administration of the National Lottery and its agencies. . . . .	»	133,856.79
General Administration of the Post-Office and its branches . . . . .	»	1,075,511.24
General Direction of Telegraphs and its branches. . . . .	»	589,903.09
Head-Offices of the Treasury . . . . .	»	246,188.15
Financial Agency of Mexico in London (gold) . . . . .	»	27,155.33
Legations of the Republic, abroad (gold). . . . .	»	32,488.98
Consular Offices of the Republic (gold and silver) . . . . .	»	22,829.19
Payees, Paymasters and Agents with control over funds. . . . .	»	326,527.87
<i>The reserves at the offices amount to. . . . .</i>	<u>\$</u>	<u>6,095,491.12</u>

## AT FINANCIAL ESTABLISHMENTS AND BANKS

## National Bank: disposable balances:

General-account-current . . . . .	\$	11,976,145.10
Silver-account with Directory of the Mints . . . . .	»	3,502,078.34
Gold-account with the Directory of the Mints (gold) . . . . .	»	78.068
Confidential Deposit-account in silver bars . . . . .	»	2,076,869.06
Account with the National Lottery . . . . .	»	248,417.02
Proceeds from the sale of silver bars . . . . .	»	582,375.33

## National Bank: not disposable balances:

Funds for the payment of the interest on the interior 3 and 5 per 100 Debt. .	»	1,322,275.12
Funds for the redemption of the redeemable 5 per 100 interior Debt. . . .	»	83,948.57
Funds for paying the 2 per 100 on the Trunk Railway of Oaxaca Bonds . . .	»	338,750.51
Funds to pay the interest on the State of Veracruz Bonds . . . . .	»	53,690
Funds in London for the payment of the Exterior Debt (gold). . . . .	»	274.38
Bank of «London and Mexico;» deposit-account . . . . .	»	2,000,000.00
Western Bank of Mexico; gold-account with the Mint of Culiacán (gold) . . .	»	28,224
Western Bank of Mexico; silver-account with the Mint of Culiacán . . . . .	»	10,665.96
Firm S. Bleichröder in Berlin: funds for the payment of the interest and redemption of the loans of 1888, 1890, 1893 and 1899, and of the mortgage Bonds of the Tehuantepec Railway (gold) . . . . .	»	2,507,878.67
Dresdner Bank in Berlin: funds for the redemption of the remaining Bonds of the Tehuantepec Railway (gold). . . . .	»	11,867.12
<i>The existing funds in the hands of financial establishments and Banks amount to.</i>	<u>\$</u>	<u>24,821,527.23</u>

## SUMMARY

In Government offices. . . . .	\$	6,095,491.12
In Banks . . . . .	»	24,821,527.23
<i>Total cash in hand. . . . .</i>	<u>\$</u>	<u>30,917,018.35</u>



FINANCIAL ORGANIZATION.—By what has been said in the previous pages, the fundamental lines of our administrative organization in respect to Finances can be clearly deduced. We do not, however, think it superfluous to synthesize them in a few words.

The Ministry of Finance and Public Credit has the superior management of the branch: it prepares the estimates and initiates the amplification or cancellation of the items which in the course of a year have not to be taken in account: it has to be listened to whenever contracts have to be made, which may give rise to expenses that would have to be covered by various fiscal years, and that all orders of payment have to pass through its channel. The General Treasury of the Federation, as the central office, and to which all others are contiguously contingent, be it as collectors or payers, is subordinate for the collecting of the imposts and the payment of the expenses. There are, besides, several general Managing Offices, all subordinate to the Ministry of Finance as to administrative work, and to the Treasury with regard to auditorship: that of the Customs, Stamp-tax, direct Contributions of the Federal District, Post-Office and Telegraphs, the two last dependent on the Ministry of Communications and Public Works, with regard to the technical part of the service. Upon that of Customs are dependent the maritime and frontier Custom-houses, classified in various categories since 1893, and the fiscal gendarmery; on the Stamp-duty, the principal and subordinate administrations and the agencies in which the national territory is divided, without any rigorous intercourse with the political division; that of direct contributions has various collecting or subordinate offices under it, and the same happens with that of the Post and Telegraphs. Besides the local agencies, which the already mentioned branches of customs, stamp-duty, post and telegraphs have established in our vast territory, there is in the capital of almost every State a Head-Office of Finance, and in the Territory of Tepic an Administration of revenues.

Thus it is, that, thanks to peace, to the ways of communication, to the perseverance, as steady as it is enlightened, and to an inflexible energy, discipline, order and morality have succeeded to reign, for the last ten years, in the very important branch of the Treasury, which before was all chaos and confusion.

DISAMORTIZATION. NATIONALIZATION. NATIONAL PROPERTIES.—In the lapse of time, the laws of disamortization and nationalization of properties belonging to civil and ecclesiastical corporations, which returned to the influence of commerce and business the riches heaped up during centuries by mortmain, came to convert themselves in a source of danger for the proprietors, because the door of denunciations of occult capitals belonging to the clergy had been left open, besides which, in many cases it was not possible to proof with the presentation of original documents, that the adjudicators of properties belonging to corporations had paid its price to the nation, be it through the incompleteness and disorder of our archives or be it through other equally serious and attendant causes. Lastly, it was not a rare case, and this also by virtue of denunciations, which speculation and covetousness inspired, in which the proprietors were molested by exacting from them, under the threat of fresh payment, the proof of having paid very old imposts, which, like that of excise or transfer of right of possession, the law declared to be inescapable and recoverable from the third and ulterior possessors.

This cause of mistrust was taken away by the Government in obtaining from Congress the sanction of the law, which on the 8<sup>th</sup> of November 1892 authorized the Ministry of Finance the issue of special certificates, declaring, that by means of a payment of a small stamp-tax, the rural and town properties, in respect of which there was not any denunciation as yet in the form of a judicial process, were in the future free from any responsibilities proceeding from the laws of disamortization or nationalization or imposts occasioned up to that date, which were considered to be acquired for ever. These certificates of exemption were a great benefit to all the proprietors in the Republic, who in great number repaired to get them in order not to be disquieted in the future by informers of dubious good faith, and allowed the law of 16<sup>th</sup> of November 1900 to declare the nationalization of properties of the clergy to be definitely closed. It is superfluous to say, that the mentioned laws did not in any way modify the prohibitions, which, in respect to the unalienable estates, the beneficial laws of the Reform had sanctioned, but, on the contrary, confirmed and even explained them.

An other law, initiated by the minister Limantour, and which Congress accepted without modifying it in any way, enacted in December 1902 numerous rules on «the classification and management of immovable federal estates,» that served as much to place many judicial principles in their true light, which, as the maritime zone, banks of rivers, roads, streets, squares and other properties of common or public use, were not sufficiently well defined to make the inventory of the public buildings and other landed property which constitute the patrimony of the nation and so as to have it well and judiciously governed.

**PUBLIC DEBT.**—Somehow purposely, we omitted to mention other financial reforms of lesser importance realized during the last ten years, because space is failing us already, and that left at our disposal, will hardly be sufficient to complete very briefly the review of the most prominent facts connected with the interesting chapter of the Mexican Public Debt.

Returning, therefore, to the point at which that review was left at the end of the preceding section, we will call to recollection, that the exterior loans of 1888 (£ 10,500,000 at 6 per 100), that of 1890 (£ 6,000,000 at 6 per 100) and that of the Tehuantepec (£ 2,700,000 at 5 per 100) were issued when Mr. Limantour took charge of the Ministry of Finance; that Credit-Notes, and those issued for the balances of Estimates previous to the 30<sup>th</sup> of June 1882, had been converted into Bonds of the Interior Consolidated 3 per 100 Debt; that against the non-paid balances of posterior Estimates, Bonds not bearing any interest, called «Balance-Certificates,» had been created, with the promise that those not redeemed within the five years following the issue, would also be converted into 3 per 100 Bonds; that more than ten classes of special Bonds were in circulation, issued by reason of railway subventions and other works of public usefulness; and that numerous credits embraced under the denomination of «floating debt» were on the way of being settled. Lastly, the credits not presented for conversion, had simply been declared deferred, without resolving anything definite with regard to their final state.

Under such circumstances, and in the middle of the dreadful crisis that came over the country from 1892 to 1894, as much on account of the loss of harvests as of the fall without precedents in the price of silver, a crisis to which we already alluded in an other place, the Government found itself compelled to issue an other new exterior loan in 1893 for £ 3,000,000 with interest at the rate of 6 per 100, without which it would have been impossible to avoid the storm. A complete plan for the definite settlement of the interior public debt was at the same time carefully prepared, which developed itself in two very important laws, dated 6<sup>th</sup> of September 1894, the best eulogy on which can be made in saying, that they were so clear, complete and just, that its application has not given rise to the slightest doubt, nor has it provoked any complaints nor resistance of any kind.

Their fundamental principles may be abridged thus. Without reversing any engagement of the previous laws of 1885 and 1889, but, on the contrary, respecting them scrupulously, a new term for the conversion of the legitimate credits presented, was granted, intrusting to a liquidating Commission the decision of them and even to revise, in certain cases, the resolutions taken by the former Management of the Public Debt. The rates of conversion were clearly fixed, according to the nature of the credits anterior to the 30<sup>th</sup> of June 1882, and as to the posterior credits up to 30<sup>th</sup> of June 1894, they were divided into three categories.

The first category comprised, «the credits exacting to be paid in cash and proceeding from subventions to railway companies and other works of public usefulness; the sums acquired by right of freights and passages to the debit of the Government; and, in general, the credits arising from loans, compensatory or not, made in cash, the mortgages and those proceeding from purchase and letting out contracts, by virtue of which, the Government has expressly been obliged to make payments in numerary, and the time of which was overdue, as well as the non-paid promissory notes, drawn by the General Treasury on various offices.»

In the second category were comprised: «the credits for salaries, viaticums, perquisites, fees, gratifications, participation in fines and remunerations; the balance-certificates issued according to the dispositions of 28<sup>th</sup> of May 1886 and 10<sup>th</sup> of November 1892; and, in general, all the credits not expressly included in the first category.»

Lastly, the special category, i.e the third, is formed by, «the bonds consisting of certificates or bonds

issued posteriorly to 30<sup>th</sup> of June 1882, in the nature of subventions in favour of the railway companies and other works of public usefulness.»

The conversion of the credits of the second category would be made in the already 3 per 100 Bonds at par; those comprised in the first and third would be carried out against a new class of Bonds called «the 5 per 100 interior redeemable,» but at different rates; those of the first at par, and those of the third according to arrangements that would have to be made with the Ministry of Finance, according to the nature and interest of the Bonds forming it, but with important limitations tending that the nation would in no way be burdened with payments of greater interests than those that it was already obliged to bear. Lastly, these two classes of creditors were authorized to receive the 3 per 100 Bonds of the consolidated debt instead of those of the 5 per 100, in proportion of \$ 145 of the former for every \$ 100 of the capital representing the latter. Those 5 per 100 interior redeemable Bonds were created by the second of the decrees which we have already mentioned, that of the 6<sup>th</sup> of September 1894; they are payable in silver (although their interest may be paid abroad at the current rate of exchange and that the Government fixes beforehand the period of maturity of every interest-bearing coupon) to be redeemed at par, by means of half-yearly drawings with a sinking fund of  $\frac{1}{8}$  per 100 on the amount of the Bonds in circulation. They were ordered to be issued in series, the first of which was of \$ 20,000,000, the law reserving to itself to fix the number and amount of the posterior ones.

There are other important precepts which the stated laws contain, and of which we will only mention those that declared the credits not presented within the stipulated time to be prescript for always in favour of the Nation, which, however, was prorogued on the 29<sup>th</sup> of June 1895 to the 31<sup>st</sup> of October following, and those that put down the rules referring to coupons and the way of proceeding in case of loss or destruction of the Bonds of the Public Debt.

Lastly, on the 31<sup>st</sup> of October 1895, at the expiration of the indicated prorogation, a law was promulgated «which definitely fixes the rights of the creditors of the Nation and decrees the obligations which the latter definitely recognizes,» and which the issue of the 3 per 100 Bonds of the interior consolidated debt ordered to be closed on the 30<sup>th</sup> of June 1896. The result of these laws could not be more satisfactory; 2,813 demands for the acknowledgement of credits were presented to the liquidating Commission, of which 946 were accepted, prompting to the issue of \$ 2,352,661.82 in 3 per 100 Bonds, the rest being rejected; all this without giving motive to a single deliberation at the Ministry of Finance (1).

(1) See page 364 on this particular subject, and the excellent compilement published by Mr. John Castillo (Mexico, Tip. and lit. «La Europea,» 1903) on the law in general, dictated in regard to the public debt from 1883 to 1903, from which we take the following diagram, worthy to be known by our readers for more than the mere title of it:

**Synopsis of the Consolidation and Conversion, decreed by the law of 22<sup>nd</sup> of June of 1885, 27<sup>th</sup> of May 1889, 6<sup>th</sup> of September 1894, 29<sup>th</sup> of June and 31<sup>st</sup> of October of 1895 and 8<sup>th</sup> of February 1896.**

CLASSIFICATION OF THE CREDITS PRESENTED FOR CONVERSION	RECOGNIZED AMOUNTS		
	By capital	By interest	TOTAL
Bonds of the 3 per 100 loan. . . . .	\$ 3,725,237.50	3,571,077.59	7,296,315.09
Bonds of the Spanish conventions . . . . .	» 235,150.10	130,523.98	371,674.08
Bonds of the Spanish conventions, liquidated by virtue of the decree of 30 <sup>th</sup> of May 1890. . . . .	» 4,480,799.49		4,480,799.49
Bonds of the 5 per 100 loan. . . . .	» 537,134.96	860,022.13	1,397,157.09
Cotton-Bonds . . . . .	» 234,091.62		234,091.62
Certificates as Bonds of the 3 per 100 . . . . .	» 138,637.38	22,653.20	161,290.58
Certificates relating to the General Treasury. . . . .	» 3,099.93		3,099.93
Bonds of the Decree of 12 <sup>th</sup> of September 1862. . . . .	» 103,576.49		103,576.49
«Carbajal» Bonds issued in San Carlos de Tamaulipas . . . . .	» 352.00		352.00
Certificates of the Liquidating Sections of the Head- Auditorship of Finance. . . . .	» 1,453,395.68		1,453,395.68
Deeds of the mining, tolls, etc. fund. . . . .	» 1,891,195.70	1,458,099.91	3,349,295.61
Bonds of the sinking fund of copper-money. . . . .	» 243,339.05		243,339.05
Bonds of the Tobacco debt . . . . .	» 10,816.40	32.41	10,848.81
Bonds of the 25 per 100 fund . . . . .	» 850,408.15	787,065.28	1,637,473.43
Certificates for the redemption of the copper in Chihuahua. Balances due on salaries, pensions and other balances arising from estimates . . . . .	» 13,707,011.53		13,707,011.53
Deeds of nationalization . . . . .	» 480,144.43		480,144.43
Ministrations, occupations, forced loans and other respon- sibilities against the Exchequer. . . . .	» 7,926,755.54	623,599.33	8,550,354.87
Sums. . . . .	\$ 35,968,638.97	7,459,073.83	43,427,712.80



Now with regard to the 5 per 100 Bonds of the redeemable interior debt, the public also received them favourably, many of the numerous special Bonds which circulated before its creation were converted in them and have served to pay, as we already said in its place, almost all the subventions to railway companies and the cost of the important public works, executed during the last few years. Posterior laws have been authorizing the issue of successive series of \$ 20,000,000, up to the fifth, the last that has to be issued according to the law of 9<sup>th</sup> of June 1902, because it has been considered, that the progress of the national credit permits to realize, as we shall hereafter see, the execution of the pending public works under better conditions than those generally resulting from those emissions.

A latter law, that of the 31<sup>st</sup> of May 1901, enacted some important regulations for the payment, liquidation and conversion of the deficit balances of estimates posterior to the 30<sup>th</sup> of June 1895 and which has been the crowning piece of the laborious fabric of a complete and definite settlement of the Public Debt.

Turning now towards our exterior gold loans, we must say, that the sacrifices imposed upon the Nation have been very considerable, especially on account of the constant fall in the price of silver which has brought on the consequent depreciation of our silver money. In order to form an idea of those sacrifices, it will be sufficient for us to say, that in the year 1893-1894, the service of our public debt represented more than 43 per 100 of the total amount of the estimates of expenditures, but it has to be observed, that the greater part of the very high percentage was devoted to the gold debt; the idea of a new suspension of payments was becoming to be current even among a good part of our educated class; and only the intelligent and enlightened integrity of our Government saved us from such a great disaster, which, with good reason, saw the national progress linked with the maintenance of our public credit. It was natural, therefore, that a great conversion scheme should be attempted as soon as favourable circumstances were to present themselves and the existing contracts would permit it, according to which the exterior loans could only be redeemed after a certain fixed period.

This double opportunity presented itself in 1899, and being taken advantage of by Mr. Limantour with exquisite ability, he went to the United States and Europe succeeding in the unification and conversion into one class of Bonds, bearing interest at the rate of 5 per 100, of the four loans of 1888, 1890, 1893 and that of Tehuantepec, which, with the exception of the last one, enjoyed an interest of 6 per 100 per annum. The details of this memorable transaction are given in a special report which the Ministry of Finance presented to the Congress of the Union on the 15<sup>th</sup> of May 1900 and which we are willing to remit to any reader who wishes to be acquainted with it: we shall have to limit ourselves in explaining here its most important results only from two points of view, i.e. the moral and the pecuniary.

From the first point, the nation not only obtained the reputation of being classified among the serious countries whose debt does not yield any high interest, but that the Railway of Tehuantepec was freed from the mortgage by which it was burdened and that the consignment put aside, as a special guarantee for the service of the new bonds, was reduced to only a part of the Customs, the Government recovering the liberty of disposing of the proceeds of the direct contributions of the Federal District, also subject to the old loans. Besides, in issuing these, the firm representing the creditors kept back the amount of two quarters' interest, but there was no such exaction in the new loan. Lastly, instead of four distinct obligations, subject to different arrangements and time fixed for the payment of the interest, only one remained in force, making the conversion or redemption of it much easier in the future.

Considering the conversion from a pecuniary point of view, although the nominal capital of the debt was increased by £ 1,642,780 (from £ 21,457,220, being the total sum of the four converted loans, to £ 22,000,000, the amount of the new Bonds), the reduction of interest and the other terms of the new loan permitted to obtain an important economy in the sum devoted to the yearly service without extending the time fixed for its redemption, an economy, which, at the rate of 23 pence per peso, in the first year alone came up to \$ 1,820,928.00. What gives, however, a better idea of the pecuniary advantages obtained by the new loan, is the comparative calculation, technically called *actual value*, of that loan on the one side, and on the other, of the four loans which were paid off by the former. That



calculation shows, in taking the difference between the former and the latter on the 31<sup>st</sup> of December, which represents the real economy realized by the Nation, that it was £ 1,678,981, which, at the then exchange of 23 pence per peso, is equal to \$ 17,519,800. To this sum, \$ 2,589,433 have still to be added, representing the interest of only 3 per 100 per annum on the sums on deposit in the hands of the bankers, and therefore unprofitable for the Government, by virtue of the contracts of the old loans, and which were returned, proportioning to the Exchequer an important entry of £ 486 316.

Such were the principal advantages obtained by the conversion of 1899, justly applauded by every body as the most intelligent and most clever transaction registered in our financial history and by virtue of which, Mexico counts itself among the countries whose securities enjoy the well deserved favour of being the soundest, being quoted at par and even above it.

In conclusion we have to state, that the real rate of interest on our recent loans has been 8.0104 per 100 on that of 1888, 6.9504 per 100 on that of 1890, 9.8696 per 100 on that of 1893 and only 5.3184 per 100 on that of 1899; if of the three first ones and of that of Tehuantepec still remain some Bonds to be converted, though in a small quantity, as we shall see hereafter, the reason is, that they have not been presented by their holders.

\* \*

We already said, that the issue of the 5 per 100 redeemable interior Bonds was limited to the fifth series of \$ 20,000,000, by the law enacted in June 1892, i.e. to a total of one hundred million pesos in silver. This disposition was founded in consideration, that the cost of the public works, which were paid with the proceeds of those Bonds, when the contractors did not receive them for their nominal value, but which the Government itself realized on its own account to make cash-payments, naturally resulted overcharged on account of the difference between that produce (which never reached par) and the nominal value of the issued Bonds. Under these conditions, our Government has effectively decided, in taking advantage of the high degree and soundness to which our credit has reached, to issue almost at par Bonds at short terms, to be repayable later on with the proceeds of a loan at longer terms. In this way, Treasury Bonds for \$ 12,500,000 in gold have been issued in New-York a few months ago, repayable in two years at a yearly interest of 4  $\frac{1}{2}$  per 100 and at the rate of 97 per 100 of its nominal value, a rate without precedent in our annals, free of commissions and expenses of any kind. The proceeds of this transaction has been destined partly to pay the cost of some public works (above all, the Railway of Tehuantepec and works at the ports of Manzanillo, Salina Cruz and Coatzacoalcas), and partly, to rather a considerable extend, for the acquisition of a certain number of shares of the National Railway for the public Treasury, which through a clever combination secures to the Government a prepondering influence, not only in the management of that most important railway line but also in that of the International, from Piedras Negras to Torreon and Durango, and in the Interoceanic, from Mexico to Veracruz Railway, an influence which, to the good of the country, will prevent these lines from being the object of *trusts* or consolidations, the possibility of which commenced already to be imperfectly seen with other railways, which in this manner would have been converted in arbitrators and masters of the traffic and even of the national production in every one of its branches, taking possession of the very important industry of conveyances (1).

\* \*

In order to give a complete idea of the actual state of our public debt of every description, there is nothing more concise than to insert the part relating to the note in conjunction with which the Ministry of Finance sent the statement of the fiscal year of 1902-903 to the House of Representatives, and which says as follows:

(1) As this issue has been made lately, it is not included in the general diagram of the public debt which we insert in continuation and which shows its state on the 30<sup>th</sup> of June 1903.

## PUBLIC DEBT

GENERAL STATE OF THE PUBLIC DEBT.—The national Public Debt, at the end of the financial year of 1902-903, consisted of the following securities and sums:

	Capital	Unpaid Interest	TOTAL
DEBT PAYABLE IN FOREIGN MONEY AT THE RATE OF \$ 5 PER £ STG.			
Bonds of the 1888 loan . . . . .	\$ 23,200 00	2,439 00	25 639 00
Bonds of the 1890 loan . . . . .	» 2,700 00	898 50	3,598 50
Bonds of the 1893 loan . . . . .	» 1,100 00	237 00	1,337 00
Bonds of the 5 per 100 loan of 1899 . . . . .	» 111,281,800 00	1,455,405 00	112,737,205 00
Provisional Certificates of the 5 per 100 loan of 1899 . . . . .		23 75	23 75
Mortgage Bonds of the National Railway of Tehuantepec . . . . .	» 5,200 00		5 200 00
AMOUNT . . . . .	\$ 111,314,000 00	1,459,003 25	112,773,003 25
DEBT PAYABLE IN SILVER MONEY			
Bonds of the 3 per 100 Consolidated Debt . . . . .	\$ 48,476,975 00	858,837 45	49 335,812 45
Bonds of the 5 per 100 redeemable Interior Debt, 1 <sup>st</sup> Serie . . . . .	» 19,595,700 00	118,062 00	19,713,762 00
Bonds of the 5 per 100 redeemable Interior Debt, 2 <sup>nd</sup> Serie . . . . .	» 19,525,700 00	127,965 00	19,653,665 00
Bonds of the 5 per 100 redeemable Interior Debt, 3 <sup>rd</sup> Serie . . . . .	» 19,712,900 00	96,270 00	19,809,170 00
Bonds of the 5 per 100 redeemable Interior Debt, 4 <sup>th</sup> Serie . . . . .	» 19,839,800 00	107,092 50	19,946,892 50
Provisional Certificates of Bonds of the 5 per 100 redeemable Interior Debt, 5 <sup>th</sup> Serie . . . . .	» 16 842,500 00	1,250 00	16,843,750 00
Bonds of the Veracruz Harbour works . . . . .	» 25 00		25 00
Bonds of the Railway from Monterrey to the Gulf of Mexico . . . . .	» 2,000 00	240 00	2,240 00
Subvention Bonds of the Trunk Railway of Oaxaca . . . . .	» 9,260,000 00		9,260,000 00
Bonds of the Railway from Veracruz to the Pacific . . . . .	» 5,939,500 00	7,185 00	5,946,685 00
AMOUNT OF THE DEBT PAYABLE IN SILVER MONEY . . . . .	\$ 159,195,100 00	1,316,901 95	160,512,001 95
NON-INTEREST BEARING DEBT Floating Debt.			
Balance-Certificates, issued from the 1 <sup>st</sup> of July 1882 to 30 <sup>th</sup> of June 1894 . . . . .	\$ 143,967 25		
Non-paid Balances of Estimates previous to the 1 <sup>st</sup> of July 1895, redeemable at a certain percentage according to the Decree of 31 <sup>st</sup> of October of the same year . . . . .	» 2,785 45		
Non-paid Balances payable in full and in cash, corresponding to the Estimates from 1896-1897 to 1902-903 . . . . .	» 969,969 84		
Various Balances pending payment, according to the settlement decrees of the Public Debt . . . . .	» 153,110 92		
AMOUNT . . . . .	\$ 1,269,833 46		1,269,833 46

## SUMMARY

Debt payable in Foreign money at the rate of \$ 5 per pound sterling . . . . .	\$ 112,773,003.25
Debt payable in Mexican money.—Interest bearing Securities . . . . .	» 160,512,001.95
Debt payable in Mexican money.—Non-paid Balances and Floating Debt . . . . .	» 1,269,833.46
TOTAL OF THE DEBT . . . . .	\$ 274,554,838.66

«The Debt payable in Foreign money has no alteration in the securities by which it is represented, except in their amount.

»As to the securities of the Debt payable in silver money, apart from the variations as regards the amounts, there is no other innovation but the one of the certificates issued in substitution of Bonds of the Public Debt, impaired or partially destroyed. In reality, this ought not to be a special item of account, because the certificates in question do not constitute a new debt, but it was thought convenient to present the said account separately this year, while the respective entries are being made in the book-keeping.

»Nothing particular is recorded in the group of securities known under the denomination of Floating Debt and which do not bear any interest.»

«REDEMPTION OF THE DEBT.—The redemption of the national Debt has had its constant attention from this Ministry, in order that all the categories composing it, should diminish up to their complete extinction.

»The exterior Debt, i.e. the one payable in foreign money, has its automatic sinking-fund by virtue of the original contract. The 5 per 100 redeemable interior Debt has also its sinking fund fixed by the terms on which it was issued, and as to the Consolidated 3 per 100 Debt, though there does not exist any properly said sinking fund, various laws dispose, that certain payments can be made to the Exchequer in securities of that class, which permits to redeem annually sums of considerable importance.

»The respective sinking-funds for the special Bonds, with which the subvention of the trunk Railway of Oaxaca and the Railway from Veracruz to the Pacific has been paid, have also commenced to be put in operation during the present fiscal year of 1903-904, the only long termed debts which the Nation has, besides those already mentioned.

»With regard to the floating Debt, which is really of little importance, its extinction is secured by means of the assignments of the Estimates of Expenditures of every year for that object, and also by means of the prescription of those securities not made use of within the conditions fixed by the laws.

»The following diagram will show the amount of the paid-off securities in every category of the Public Debt, during the year 1892-903:

Securities of the Public Debt which have decreased on 30<sup>th</sup> of June 1903 with regard to the same date of 1902

	30 <sup>th</sup> of June 1902		30 <sup>th</sup> of June 1903		Difference by less in 1903	
<b>DEBT PAYABLE IN FOREIGN MONEY</b>						
AT THE RATE OF \$ 5 PER £ STLG.						
(By capital)						
Bonds of the 1888 loan. . . . .	\$	29,400 00	23,200 00	6,200 00		
» » 1890 » . . . . .	»	4,800 00	2,700 00	2,100 00		
» » 5 per 100 1899 loan . . . . .	»	112,012.500 00	111,231.800 00	730.700 00		
Mortgage Bonds of the National Railway of Tehuan-tepec . . . . .	»	6,000 00	5,200 00	800 00		
AMOUNTS. . . . .	\$	112,052.700 00	111,312.900 00	739.800 00		
<b>SECURITIES OF THE DEBT PAYABLE IN SILVER</b>						
(By capital)						
Bonds of the 3 per 100 Consolidated Debt . . . . .	\$	48,972.425 00	48,476.975 00	495.450 00		
Bonds of the 5 per 100 redeemable Interior Debt. 1 <sup>st</sup> Serie. . . . .	»	19,653.000 00	19,595.700 00	57.300 00		
Bonds of the 5 per 100 redeemable Interior Debt. 2 <sup>nd</sup> Serie . . . . .	»	19,590.800 00	19,525.700 00	65.100 00		
Bonds of the 5 per 100 redeemable Interior Debt. 3 <sup>rd</sup> Serie. . . . .	»	19,772.100 00	19,712.900 00	59.200 00		
Bonds of the 5 per 100 redeemable Interior Debt. 4 <sup>th</sup> Serie. . . . .	»	19,898.000 00	19,839.800 00	58.200 00		
Bonds of the Railway from Monterrey to the Gulf of Mexico. . . . .	»	3,000 00	2,000 00	1,000 00		
AMOUNTS. . . . .	\$	127,889.325 00	127,153.075 00	736.250 00		
<b>NON-INTEREST BEARING DEBT</b>						
(Floating Debt)						
Balance and Credit Certificates not presented for Conversion, and not paid deficit balances of Estimates . . . . .	\$	1,342.403 50	1,269.833 46	72.570 04		
	\$	1,342.403 50	1,269.833 46	72.570 04		

SUMMARY

Debt payable in foreign money . . . . .	\$	730.800.00
Debt payable in silver money . . . . .	»	736.250.00
Debt on which no interest is paid (Floating Debt). . . . .	»	72.570.04
TOTAL. . . . .	\$	1,539.620.04

»The total amount of redemption in 1902-903 was \$ 1,539,620.04, as per above statement, against \$ 1,269,250 to which it came in the previous year.

»The redemption in the securities of the exterior Debt was much more important during the last year (\$ 739,800 instead of \$ 394,100) through circumstances which in no way have any influence on the regularity of that redemption. In fact, the respective contract disposes, that the redemption is to be made by means of drawings when the price of the securities is above par in the market, and by purchase in the open market when the price does not exceed par; and as the purchases must be made a few days before the payment of the coupon, according to the said contract, while the paid-off securities by drawings are only presented after the coupon becomes due, the consequence is, that at the end of a financial year more Bonds may have been redeemed if these are bought in the market before the 1<sup>st</sup> of July than if they had to be paid-off after the termination of that year.

»The securities of the Debt payable in silver, only amounted during the last year to \$ 736,250 instead of \$ 875,150 which they represented the previous year. This slight decrease is principally due to the Bonds of the 3 per 100 consolidated Debt, the amount of which, as stated, depends upon the operations of nationalization or of unappropriated lands realized during the year. The difference is also due to the circumstance, that in 1901-902 a certain amount of the railway subvention Bonds were redeemed, which, since then, have almost been paid-off entirely.

»Lastly, there was also a decrease of \$ 72,570.04 in the Floating Debt, which does not bear any interest, through the redemption of balance-certificates.

»INCREASE IN THE DEBT.—In the following diagram the classes of the Debt are represented which increased and the amount of the increase:

Increase in securities of the Public Debt in closing the account on the 30<sup>th</sup> of June 1903,  
in proportion to those that remained in circulation on the same date in 1902

SECURITIES OF THE DEBT PAYABLE IN SILVER (By capital)	30 <sup>th</sup> of June 1902		30 <sup>th</sup> of June 1903		Difference in increase in 1903	
Provisional Certificates of the 5 per 100 redeemable Interior						
Bonds, 5 <sup>th</sup> Serie.	\$	5,294,100 00	16,842,500 00		11,548,400 00	
Bonds of the Railway from Veracruz to the Pacific.	»	3,569,500 00	5,939,500 00		2,370,000 00	
AMOUNTS.	\$	8,863,600 00	22,782,000 00		13,918,400 00	

»The increase of our Debt only took place, as in the previous year, in the following classes of securities:

»In the fifth serie of Bonds of the 5 per 100 redeemable Debt and in the Bonds of the Railway from Veracruz to the Pacific. The amount of one and the other class of securities issued during the year referred to is of great importance, particularly that of the Certificates of the 5<sup>th</sup> serie of the redeemable Debt; and in the same manner the first as well as the second have been put in circulation according to the respective contracts.

»So that the exact investment given to the Bonds of the 5 per 100 redeemable Debt during the financial year just ended, should be known, the following statements are added:

Payment made to the Railway Companies in provisional Certificates exchangeable into  
5 per 100 Bonds of the 5<sup>th</sup> serie, during the financial year of 1902-903

To the Railway from Merida to Valladolid . . . . .	\$ 87,500.00
» » » Merida to Peto . . . . .	» 137,500.00
» » » Yucucuar to Ario . . . . .	» 168,000.00
» Coal Railway of Oaxaca . . . . .	» 45,000.00
» Railway from Cuautla to Chietla . . . . .	» 180,000.00
» » » Virreyes to San Nicolas . . . . .	» 300,000.00
AMOUNT.	<u>\$ 918,000.00</u>



Payments made to the Contractors of Public Works in provisional Certificates exchangeable  
into special securities, during the financial year of 1902-903

Works in the Port of Veracruz . . . . .	\$ 1,344,800.00
Works in the Port of Tampico . . . . .	» 582,900.00
Works in the Ports of Coatzacoalcos and Salina-Cruz . . . . .	» 4,349,000.00
Works in the Port of Manzanillo. . . . .	» 1,385,800.00
National Railway Company of Tehuantepec. . . . .	» 2,967,900.00
AMOUNT. . . . .	<u>\$ 10,630,400.00</u>

SUMMARY

Exchangeable against 5 per 100 Bonds . . . . .	\$ 918,000.00
Exchangeable against special securities . . . . .	» 10,630,400.00
TOTAL. . . . .	<u>\$ 11,548,400.00</u>

»The separation made in the previous statements between the provisional certificates exchangeable for Bonds of the redeemable Debt of the 5<sup>th</sup> serie, and those exchangeable for special securities, proceeds from the law of 9<sup>th</sup> of June 1902, by virtue of which, the Bonds of the 5<sup>th</sup> serie are reserved for the payment of railway subventions, only permitting the issue of the certificates of the said 5<sup>th</sup> serie for the payment of harbour Works and those which the National Railway of Tehuantepec demands, under the express condition, that the said certificates shall not be the cause of the issue of the definite securities, but they shall be re-imbursed with the proceeds of the loan at long or short terms, the issue of which authorized the same law of the 9<sup>th</sup> of June.

»The result of which is, therefore, that of the \$ 11,548,400 of certificates of the 5<sup>th</sup> serie, put in circulation in 1902-903, only \$ 918,000 will be substituted by the respective Bonds, and the rest expect to be paid-off in cash. I have to add, that the greater part of these certificates has already been redeemed after the 1<sup>st</sup> of July of the present year with a part of the proceeds of the gold issue of \$ 12,500,000 in Treasury notes which has taken place these last few months.»

MONETARY QUESTION.—The author of these lines wavered a great deal before deciding to dedicate a few words to the works undertaken under the care and direction of the Ministry of Finance for the settlement of the monetary question, be it because they are not yet finished and also on account of the direct participation it has taken in it. However, getting over his scruples, he has resolved to give a brief idea of the said works, because the depreciation of our silver money is likely to be a black spot in the economic future of the country, and it would not be just to leave the reader under the impression that the national government did not busy itself to remove this obstacle, that is putting itself in the way of Mexican progress.

It is a year ago that our government, justly alarmed at the fall in the gold price of silver, which in November 1902 made our international exchanges rise to almost 280 per 100, resolved to undertake an international crusade, not for the purpose to obtain the impossible rehabilitation of the white metal, nor in search of a monetary convention, but to call the attention of the countries using the gold as their standard money, which made it expedient to study serious and conscientiously: 1<sup>st</sup> by the silver market, to proof if the world's production of this metal is really greater than its consumption, as it had till then been believed to be axiomatically; 2<sup>nd</sup> by the possibility of coming to an understanding among the governments of the richest and most powerful nations which might lead to the result of regulating its purchases of silver so as to avoid sudden changes in the price of this metal; and 3<sup>rd</sup> by the possibility of arriving at some general accord on the fundamental basis of a plan for monetary reform for the countries and colonies using the silver standard, without having recourse to any formal international agreement and which might produce the double effect of not dismonetizing this metal and to give to this, nevertheless, when used in interior markets, a fixed value in gold for the purpose of international exchange. The foundation of this initiative, which was cleverly presented to the Government at Washing-

ton, consisted in the interest the nations using gold as their money have in preventing that their commerce with countries using silver should diminish more and more every day, as it could not do less to happen on account of the difference in the monetary standard; the government of the Celestial Empire adhered to it, with the result that the Congress authorized the President of the United States to appoint a commission which, in union with one from Mexico should study the question, and if an agreement should be arrived at with China, steps should be taken of inducing the principal European governments to try and get the settlement of a system in which the stability of the international exchanges should prevail.

The Mexican commission was composed of Messrs. Henry C. Creel, a well known business man and president of the Central Bank, besides other employments; Lewis Camacho, our intelligent and illustrious financial agent in London and Edward Meade a prominent Banker of San Luis Potosi, and united to the North-American, which was composed of Messrs. Hanna, Professor Jeremiah Jenks and Charles Connant, real authorities on this subject, and the representatives of China in Europe, important conferences were held in London, Paris, The Hague, Berlin and St. Petersburg with distinguished delegates appointed by the governments of England, France, Holland, Germany and Russia.

It would perhaps be too flattering for our national conceit to pretend that the rise in the price of silver, which it had during the spring and autumn of 1903 and which made our exchanges to fall to less than 220 per 100, was more or less due to these labours; but the fact is, that on one side very complete statistics, carefully prepared by the Mexican Commission with official data, seem to show with surprise even to those best versed in these matters, that the world's consumption of silver, in spite of being dismonetized in the whole of Europe and in a great part of America and even Asia, is sufficiently counter balanced by the production. On the other side, the plan presented by the Commissions to obtain the stability of the exchanges without having recourse to conventions of an international nature and which in substance very much resembles those adopted by England in 1893 and the United States in 1902 for India and the Philippines respectively, deserved the assent of almost all the commissioners of the European governments, which naturally has given way in favour of the conception formed by our delegates.

While this was being prepared abroad, the Ministry of Finance took two important resolutions at home: the one was directed to put an end to the constant threatening attitude which the depreciation of the silver money meant for the balancing of our Estimates, and the other had for its object to study and to obtain data and opinions to resolve whether or not it would be to the permanent interests of the Republic to change its monetary system.

The problem of securing the balancing of the Estimates, has been solved by other nations, that found themselves in the same case as we, in fixing the import duties to be paid in gold. For many reasons we could not do the same here, the foremost of which is the already high tariff of our Custom-house Ordinance, by which, the simple proceeding of making the present rates to be payable in gold, would be equivalent to convert many of them prohibitory. On the other hand we do not want all the custom-house revenue in order to attend to the interest and redemption of our Public Debt in gold, and besides the second charge, originating from the losses imposed upon us by the high rate of international exchange, has already been calculated for some years in our estimates of expenditures. To cast, therefore, these circumstances in oblivion and to decree the payment of that revenue to be made in gold, would have been to make the sacrifice innecessarily severe on the very numerous consumers of imported goods, by which, and with the help of mathematics, a formula was found to fix the parity of the tariffs (including the overcharge of 7 per 100 on stamp-duty and 2 per 100 on harbour-dues) to a rate which would be equivalent to the exchange of 220 per 100 on New-York. It was, therefore, settled, that the average exchange during the first twenty five days of each month should be taken, and if this average were equal or inferior to the aforesaid rate of 220 per 100, this would rule for the payment of the duties, but if it were superior, it would serve as a basis for the payment of duties during the month following with the consequent increase. The calculation is very simple to make, for one has only to multiplay the 50 per 100 of the total amount of a warrant sheet, liquidated according to the tariff, by the factor fixed by a

ministerial circular at the end of every month, to get the amount of the duties in Mexican pesos, a proceeding, though purely scientific, has been simplifying the old ones in which it was necessary to take the element of the additional duties in account, which, be it said, exacted the employment and cancellation of *estampillas*. As a complement of this measure, it was arranged that the duties on gold should not be estimated on the value fixed to that metal by the monetary law, but on its mercantile value, thus saving the Public Treasury from the emergencies proceeding from the fluctuations of the exchange which have sometimes reached enormous proportions, putting us to the very edge of the abyss, without having been noticed by the nation. We sincerely deplore the want of space in order to give more extensive details on this most ingenious combination of the Ministry of Finance, which even surprised the most instructed in the way of figures. Whoever wishes to know it, may find it clearly explained in the initiative directed to the House of Representatives on the 5<sup>th</sup> of November 1902.

With regard to the study of the monetary question at home, a Commission composed of forty four persons, carefully chosen from natives and foreigners, representing the entailed interests of commerce and industry in its manifold branches, without omitting one single one, was appointed to do it. These persons, whose labours have been lasting from the 19<sup>th</sup> of February 1903, were organized in five subcommissions, collecting very interesting data, formerly unknown or obscure, on all our economical problems, clearly put in a collection of questions which the Ministry of Finance prepared, arriving at conclusions which have served the purpose of persuading the public opinion, formerly inspired by the treacherous stimulus resulting from a depreciated money for the national production and the rising native industry, that the basis of every radical progress is rooted in having a sound and permanent mark of exchange. That same Commission, at the moment we were writing these lines, and through one of its subcommissions, had just traced the outlines of a plan of monetary reform, which, in the opinion of many, will acquire for the Republic the stability of the international exchange and will finish by putting it on the financial level of superior countries with which it is already in every class of communications, if the public powers will decide to adopt it with the alterations that its experience, enlightenment and patriotism might suggest.

\* \* \*

And now, dear reader, if you have had the patience to follow us in our pilgrimage, laborious in many ways (which you may believe), and exclusively undertaken in your interest and in that of Mexico (which we also entreat you to believe, because it is the truth), let us be allowed to return, in conclusion, to the interesting chapter of the Public Debt, which would meditate on the most serious problems and enclose the best founded prediction on the future of a country, and to tell you two words on the financial policy which our government has lately developed in this matter, because there are not a few wanting who try to censure that policy as of little foresight and qualify the evident prosperity of the national finances as being more artificial than sound, saying, that the balancing of the estimates, the annual surpluses and the cash reserves, have only been obtained at the expense of the future of the Republic.

Those who have been saying such things, have easily been convinced of the error they have fallen in being ignorant of the most elemental rudiments of financial science, that amongst its soundest and best established principles is to be found that of never attempting to burden one generation alone with the cost of improvements, progressions and works which have to be for the benefit of many, because in the contrary case, it would be perfectly unjust and also, because in the majority of cases, a real impossibility would be attempted, though the expenses of that nature are commonly too considerable for an ordinary estimate to be able to support, to burden them on this one, would simply and plainly be absurd and only comparable to that of a private person attempting to add a flat to his house or to enlarge his hereditament with the funds he has destined to his ordinary maintenance. Those improvements or enlargement constitute increase to the capital and nothing else and they have to be foreibly made with new resources which in the case of a nation; can only come from the credit, since, to be rational and just, no excessive produce nor changeable on a large scale from one day to an other, can be asked from the impost.

That those improvements, works or capitalizations have not to be excessive, nor without any reflection, is a naturally understood thing, but at all events, the determination of their extent or the proper time to make them, belongs to the whole of the Administration or Government; that which concerns the Financial Department, is to obtain the necessary means to carry them out under such conditions, that the amount stipulated in the ordinary estimates is not exceeded, risking its equilibrium and producing a deficit. Have these conditions been fulfilled under the financial exertion of Mr. Limantour? It would be useless to deny it: we have already seen, that the ordinary and cash revenues have been doubled during the last ten years; that the reserves of the Treasury, proceeding from the annual surplus, amount to more than thirty million pesos existing in our offices and Banks within and out of the Republic; that we are attending with every regularity to the service of our Public Debt and that in fact, the ways for the future are open in every sense of the word, and that we may go on making railways, telegraphs, light-houses, improvements at the ports, drainages, sanitary improvements in our towns and even buildings and monuments of a certain show of extravagance, of which, ten years ago, we could not even dream.

They will tell us that this progress is engendered by the main forces of the country.—Our answer shall be *yes*, because if they were not to exist, nothing would be possible; but the merit of our Government consists in measuring these forces without fear, but also with prudence, and the special one of our financial Administration of the last few years is founded in having channeled them the course they mark out, on one side, the financial science, and on the other, the most perfect ability and the strictest integrity in the management of the public funds.

The principal and direct results of it have been:

The abolition of the excises;

The complete and definite settlement of the Public Debt;

The efficacy, discipline and morality in the administration of the national patrimony;

The balancing of a Budget of already more than seventy six million pesos, when in 1867 it did not reach twenty;

The existence of cash reserves of more than thirty million pesos;

The adoption of a prudent, thoughtful and wise policy in railway matters and public works.

This is the financial work realized during the last few years by President Diaz and his minister Limantour, whose names the History already inscribes in a prominent place at the side of the most clear sighted amongst Mexicans: It is out of justice and nothing more that we leave it here impressed, reminding those of our readers, who may mistrust the motives which inspire our words, of the words that great England has preserved on its national coat of arms:

HONNI SOIT QUI MAL Y PENSE.

Mexico, 27<sup>th</sup> of December 1903.

Paul Macedo.

#### POST SCRIPTUM

The author cheerfully discharges a duty of gratitude in stating, that many of his friends have been pleased to help him with a collaboration as intelligent as it was disinterested, either by furnishing him with data or favouring him with judicious observations. Amongst these, justice claims, that special mention should be made of Mr. Angel del Campo, from whose elegant pen, besides other articles, came almost the whole first chapter, entitled: *The Public Treasury from the primitive times to the end of the Vice-Regal Government.*





## PART SEVENTH

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### POLITICAL HISTORY

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#### THE PRESENT ERA (1)

WE have at last come to the end of our heavy task; in undertaking the same, we feared that it would be superior to our strength and only through that kind of fascination that the magnitude and almost insurmountable difficulty of an intellectual undertaking bears on learned men, we had the boldness to undertake it; in finishing it, we confess ourselves to be mastered. It was certainly beyond our strength. It could not be less in a country where statistical work is scarcely taking shape; where the ardent desire for collective and classified data only exists in a very individual and deficient manner; where our archives, still without any organization, catalogues and without facility to work, are composed of an immense hoarding up of old papers which time and negligence have reduced to dust; where our writers have turned their works into party weapons, as it was not expected to be otherwise, only based on very flimsy facts and its appreciations hurriedly expounded, condensing the theories with which they have interpreted our history and the prejudices with which they have falsified it. We purposely overlook the also incomplete contingent of official documents because they have never the validity of proof, for they only yield to special aims when they are scrupulously confronted with others of a distinct origin.

In short, the fact, the phenomenon, be it political, administrative, economical, legal or moral, some times defective and in any case occult or guarded by the events of first importance, but which, determined by the surrounding conditions and inheritance, is in its turn the determiner of the ostensible history, the social fact in its essential elements almost always escapes us because it either did not leave any track or its footsteps have been lost, with the result, that without it, every study remains useless, ephemeral, or at the least provisional.

And it is this which we have done: a provisional labour; others will attempt to improve on what we have intended to do and perhaps with greater success, having a greater abundance of more scientifically cleansed material at their disposal. But our efforts, however, will not have been useless. In the first place, if we have managed to study the dynamic conditions of our society without prejudice, we have not studied it without system. It is not our intention to expose it here in the school style, but the title alone of our book indicated that, though we could dissent from the formula of social laws; and some, following the spencerian school, might profoundly assimilate them to the biological laws, while others would consider them essentially psychological according to Giddings and perhaps the great part fundamentally historical in consonance to Augustus Comte and Littré, we all have started from this point: society is a living being, for that same reason it grows, it unfolds and transforms itself; this continuous transformation is more intensive whenever the principle is governed by the interior strength with which the social organism reacts on the exterior elements to assimilate and make them the help in its progression.

Science, converted into a prodigiously complex and powerful instrument of work, has accelerated the evolution of certain human groups by consecutive centuplications; the others, either subordinate themselves

(1) See pages 33 to 313 of the first volume of this work.

inconditionally to the principal ones and lose their own knowledge of existence and their personality, or necessarily leaning on ideals which are moral forces as perfect a reality as physical strength, tend to make use of all exterior elements in order to consolidate its personal equation, and as a result manage to impress upon its evolution a movement, if not equal to that whose peculiar circumstances carry the vanguard of the human movement, at least to the level of its necessities of preservation and well-being.

With this criterion, and with the help of books, documents and the personal observations at our disposal, we have laid before the public the Mexican social phenomenon, and if we have logically drawn the conclusion, that all the facts, of which certitude we had a knowledge, showed a growing movement, though in very distinct degrees, resulting from the interior impulse compared with others from the exterior, that movement is the Mexican social evolution. We have adhered to this total result, though the circumstances and intimate reasons, profoundly real of that evolution, may be more conjectural than really known on account of the scarcity of data and studies.

## I

Definitely free from the exterior pressure, commencing on the following day of our Independency, and which had to finish in a resolute intervention in our interior life in order to trace and to impose it fixed tracks, the Republic had acquired the indisputable and indisputed right of calling itself a nation in the year 67. Strong at home, thanks to the prestige it had gained through its energy displayed in the struggle against France and the Empire, a prestige which grew in direct reason of the discredit which the immense triple error, diplomatical, political and military, called the Mexican question, had thrown on the government of Napoleon III; firm with the support of the United States, interested or not, but real and secure, to country had only to think of its interior problem. How would the resuscitated Republic organize itself? The political conditions could not be better: the reform party, inheritor of the liberal party, was absolute master of the political country; it had its program in the supreme law, the Constitution of 57, in which the Reform laws would soon incorporate themselves; it had the man at its head who embodied the triumphant cause before the world, and that chief was the very President of the Republic, it was Juárez; its members filled almost exclusively the federal public posts and the governments of the States; it had no enemies; the contra-revolutionary party, which had identified its cause with the french invasion and the Empire, had died with them and only could resuscitate with them: it never could resuscitate. The reduced national army, but selected after the struggle, clustered round the government and the constitution, ardent with admiration for the great citizen who with his incontestable faith permitted it to regain its strength and triumph, vibrating with heroism and hatred for the enemies of the country.

These were factors of first importance to produce a social state characterized by the definite entry of the Mexican people in the period of political discipline, order, peace, if not totally at least predominant and progressive, and in this way to come nearer to the solution of the financial problems which preceded, condition and consolidate the realization of the supreme ideals: liberty, country...

Colonization, labour and capital to explore our great wealth, ways of communication to put it in circulation, such was the social *desideratum*; it was resolved that the Republic should pass from the military era to the industrial (principally due to the action of the Government, because our education, our character, our social state demand it thus); and should pass to it speedily, because the giant growing at our side and coming closer to us each time, in consequence of the manufacturing and agricultural power of its frontier States and to the increase of its railways, would tend to absorb and to disunite us if we were weak.

To put the *desideratum* in way of realization, Juárez and its ministers conceived the only possible program; to strengthen resolutely the central power within the consideration of the constitutional forms, for which Juárez was devout without carrying that devotion to feticism, as shown by his history and legal education, as he always proved it whenever he thought the *salus populi* in danger; to strengthen

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CONCLUSION.—THE PRESENT ERA

**Mexico.—Constitution Square and Cathedral**









it because the central power was the one responsible before the eyes of the world, to which we went to ask for the active elements of our financial transformation, of order, of peace, of justice, that is to say, of the solvency of our exchequer, of the power of the Government in all parts of the country, of the respect to right, of all that might be a sure sign of organization and progress.

The task was timorous, immeasurable; the object was to make an overflowed river return to its bed and to put perpetual dams to future inundations. All energetic people of the country have taken part in the struggle, the least part out of patriotism, the greater part through a spirit of adventure and revolution, not a few with selfish aims and in order to explore, to plunder and to defend the abuses under the shadow of which they prospered and oppressed the people.

This was not the work of a day, and Juárez never thought of concluding it, but he was determined to put a solid foundation to it. An army, an instrument of iron, capable to command respect and fear, was required; the Secretary of War was the man *ad hoc*: a clear-sighted connoisseur of the important personages among the enormous armed mass that had triumphed, affable and persuasive, accessible to adulation, though inflexible and hard at the bottom, he immediately commenced his work of selecting and grouping around the government, almost always with effect, the elements of real strength, preparing to combat and to conquer, because he was capable of deciding but not illusionary; he knew that civil war was inevitable but he did not fear it; his desire was to conquer rapidly at the revolution and to give that proof of strength.

There was almost an insurmountable obstacle in the way to get the army in his power and to make it his own: the victorious generals, the heroes of the late war. All of them aspired to privileged places, a kind of military autonomy of honour, consideration and power, not only for themselves but also for the groups of warriors drawn round about them. The armed mass, that which was not exactly a military element, returned to its homes or haunts, had been licenced or dispersed, ready for any future revolution or dissolved in gangs of bandits which kept the whole country in alarm, uneasiness and distrust; from which a nervous state of things originated, pointing out, that the Republic would only in indefinitely far away times return to prosperity.

The cleverness of Juárez's minister consisted in disarming the hostile elements; when they were useful, he flattered them, conferring upon them favours and giving them hopes; and where the first personages were of a rather strong temperament to resist these adulations, the others, the second class generals, the colonels,—amongst which there were some splendid soldiers,—were solicited, invited, joined the cause, separated from their chiefs: the great prestige of Juárez did the rest.

The most conspicuous chief of the army, he who enjoyed the same great sympathy and irresistible ascendancy among the legions of the North, West or Centre as he did in the old army of the East, which continued to be personally attached to his orders, and diffident, almost hostile to the Government, which was totally ignorant of his merits and depreciated his services,—we have named general Porfirio Díaz,—was the danger, the preoccupation and the obstacle; pushed on by a misled patriotism, but intensely energetic, he was apt to provoke a revolution but unable to direct a *pronunciamiento*. In the meantime, the chief of the 2<sup>nd</sup> division, separated and inflexible before adulation, retired quietly, discontented and strong.

With him, the resistance to the smoothing action of the Government lost its shield of steel, and the transformation was rapid: the normal army of the Republic, brave, disciplined and loyal, had its birth from that; the army never returned to *pronunciamientos*; it might have let fall some of its fragments in the abyss of sedition; it might have been left without compass and disseminated in times of disorganization of the Government, but to take *en masse* the lead to civil war like Echavarrí, Bustamante, Santa-Anna, Paredes, Zuloaga, to this it did not return: it will never return to it again!

The administrative work was, however, not realizable without finances and the creation of them seemed still less realizable on account of the tremendous difficulty of reorganization of the country and our absolute want of credit abroad not only produced by the great distrust and the insurmountable suspicion with which our attempt to establish a real government was looked upon, uncontested in its



principles, its means consented to and its issue accepted by the nation (a thing which, one may say, was unusual in our history), but through the just and legitimate attitude we had taken up in the face of our foreign creditors, in considering some of the credits as void in their origin and others subject to revision and to new arrangements. The considerable waste of public wealth, in consequence of an eleven or twelve year's uninterrupted war; the impossibility of defining the impost list without statistics nor incipency whatever; the certainty to find obstacles wherever it might be intended to reintegrate to the Federation the benefit of its legal resources, kept back by the local administrations to live on, and which really contributed to bankruptcy and joined with anarchy, authorized all the worst predictions and showed the black spot which very soon would convert itself in the final disaster of our nationality: our people, said a Mexican poet and prelate at that time, who *do not know how to command, and to obey they do not wish*, drifted fatally to impotence and to North-American absorption.

The ministers of Juárez formulated a financial programme, which, without excluding the troublesome expedient in practice (which was impossible on account of the close strife with the necessities of daily life) and the call on agiotage, the cancer of our exchequer, the invading parasite which prevented us from living, and the ruinous transactions which the covetousness of its partisans, traced the rational plan of the viable reforms of our financial system, a plan which is still in its directing lines the one which has allowed us to meliorate and to foment our economic transformation each time more normally: to reform and to concentrate the collecting and administration of the imposts; to make use of a policy of perpetually revisable transactions with regard to tariffs; to institute the *tímbre* with the tendency of transforming the basis of our revenues, making it principally for the interior; to find out a possible balancing of the Estimates (without ever obtaining it, though the unrelenting levelling of necessity practically balanced the revenues with the expenditures), to organize the Treasury audit and to prosecute peculation and fraud as far as it might be possible; such was, substantially, the programme. A man endowed with patient energy, incredible assiduity and honesty without a stain, rather a great public functionary than a great financier, was principally charged with the realization of a work which only deep economical modifications have been able to draw out of the orbit of idealism in the course of time.

The political situation helped every day less the execution of such a stupendous undertaking. From the very eve of triumph, the statist, forming the official Council of Juárez and all of them resolved to plant the Constitution but determined that the prosperity should be above it (it was done in this manner at the Paso del Norte), well understood the urgency of its modification in order to make it viable. And being perfectly aware that these modifications could not be obtained from exalted Congresses, that must be expected, or only late and very deficient, they thought it would be better to call on the voters to a plebiscitary manifestation to reform the fundamental law from the electoral colleges, considering the highly abnormal character of that historical time: the object was to strengthen the executive power by means of a veto; to impede the neurotic despotism of the popular House, forcing it to divide its power with the Senate, and with the certainty that the triumphant liberal party, in finding itself alone with the corpse of the retrograde at its feet, would divide itself in party factions, they tried to give a legal life to a conservative party subject to the institutions, but aspiring to modify them by legal means for which purpose it was thought that the most efficacious would be to return the vote to the clergy, excluded by the Constitution.

The idea that animated this most audacious plan, less that referring to the clergy, was on the whole rightly conjectured; the plebiscitary proceeding was a lamentable error. The dissatisfied, the old adversaries of Juárez, the more or less dissimulated enemies of Lerdo (to whom all the efforts made were attributed), took up the gauntlet, converted it in a constitutional flag and the plebiscit failed pitifully; it had already a right to be an opposition, recruited among the most selected and eloquent of the constitutional party, and even the candidature of Juárez, a necessity of national honour, it found opponents in all the groups that just obtained the victory.

The Government secured a majority in the formation of the House, but a majority little submissive

and rather insubordinate, glorying in solemnly repudiating the frustraneous plebiscitary policy and which rather found a pretext to applaud than to censure the flagrant and sometimes pompous and haughty opposition bench.

All the prestige of Juárez, all the influence of Lerdo's talent, compared to that of the great chancellor Bismark, all the respect that Iglesias inspired by his expressions, backed by figures and data, all the credit of the infatigable assiduity of Romero and the fear about the every day firmer action of Mejía on the military element, was used to control and to fully govern the parliamentary majority, commencing thus the Republic to exist in its second era.

We shall not follow it step by step. But if we state, that in spite of the obstacles mentioned and a deaf ear given to the administrative evolution by a great part of Mexican society in the great centres, above all in Mexico, Puebla, Guadalajara, San Luis, Mérida, a resistance shown by the withdrawal of the rich, distrustful and apprehensive; by resentment of the conspicuous groups that were left wounded and stained with blood at the fall of the Empire, and of fear of those who saw in the Reform, embodied in Juárez, an antireligious undertaking instead of an anticlerical weapon; in spite of all, the Government made headway and the Republic felt being governed; a superior guarantee for work appeared in the firm will of the President to make his authority respected and to maintain resolutely order, the country returning to its normal life.

As by enchantment, the spirit of enterprise commenced to brighten up, capitals to enter in circulation and the solvency of the exchequer and the almost always regular pay of the army of functionaries, that constitutes a very important social and mercantile element, gave a growing cohesion to the authority. This state of things soon had its effect abroad; the here firmly planted foreign interests, used their force of attraction on those that were in connection with them away from here, and the great problem of the ways of communication had its beginning of being solved in definitely organizing the works that had to join the Capital of the Republic, not only politically but also mercantile with our principal port by a great railway.

The Government put the hand with impulsive energy on an other class of activity: Juárez thought his duty to raise his native race, a duty of lineage and belief, from its moral prostration, superstition; from the religious abjection, fanaticism; from mental abjection, ignorance; from physiological abjection, drunkenness, to a better state, though it might slowly be better, and the principal instrument of this regeneration, the school, was his vehement desire and devotion; all had its basis from that. One day he said to the author of these lines, an impatient student of the quick realization of ideals and dreams: «I would like protestantism to take root in Mexico and to win over the Indians; they want a religion that would oblige them to read and not to waste their savings in candles for the saints.» And understanding that the burgesses, from which the political and social management of the country is forcibly recruited, on account of the very structure of modern society, really wanted a preparatory education for the future, confided the reform of the superior schools to two very eminent men of science (one of which had all the greatness of a founder) the second in order, or *preparatory*, resulted to be an imperishable creation enlivened by the soul of Gabine Barreda. Literature, the flower of those hours of hope and repose, the perfume of which was the very spirit of the resuscitated party, had its triumphal epiphany. The Republic turned to hear the beloved voices of its great orators, its great poets: Ramirez, Altamirano, Prieto, Zamacona, Zarco; and in their cooling and prolific shade, those of the minor gods and sonorous swarm of the new ones, those of twenty years. The conquered ones came to them and it seems as if at the sound of the lyre a new republic of harmony and love was going to rise in the aurora of the new era.

## II

Unfortunately, the dark clouds rose on the horizon; as we have already said, there was never a mass of armed people in the Republic equal to that which was on foot in every corner of the country from

Yucatan to Sonora the following day of the triumph in spite of the continuous civil wars and those of the rebellious states; the States, in reabsorbing the greater part of those forces, after the selection of the national army had been made, found, that those men used to adventures, marauding, pillage and fighting, scorned industrial or agricultural work, so little remunerative that it seemed a mockery to offer it to them; irregular warfare for any political plan or in gangs on their own account, was more advantageous to them, and it was not easy to distinguish the colours that differed one group from the other. This was the substance, the plasma that had to stick round the nucleuses that formed themselves in a hurry in sight of the Government, that watched and prepared itself to dissolve them. The officers expelled from the army, not a few of them unjustly, many necessarily, others by clear reasons of dignity and convenience; those that were excommunicated politicians, though republicans, because they were on the point of breaking up the republican party at the most trying hour, and those excommunicated from the country as traitors, who, though well convinced of the impossibility of restoring the Empire, were victims of the impossibility of leading an other life than a military one, these were the irreducible elements of the focus of the future revolt. And as the army itself was in touch with them, this proved to be accessible to temptation, to subordination, to insubordination and rebellion, not in its own body, but in many of its depraved components, above all those that intended to resist the every day more concentrated action of the federal government, under the influence of the local tendencies.

Immediately after the election of Juárez; which was, as we have said, a great act of national honour, commenced the sporadic manifestations of concealed anarchy, but a great effort of the country to live in peace and a great effort of the Government to maintain it, overpowered them all. This conception entered, from then, in the deepest part of the national mind; it was an obsession: peace is our first condition to live, without peace we definitely stop our interior development and march towards an incurable international catastrophe.

But the Government exhausted its resources the further it made its action felt: be it in Sonora and Sinaloa, where the provoking local grudges kindled the struggle; be it in Yucatan, where imperialism had many followers, and where it smouldered like rancor, though it had died as a programme, be it in the centre itself, in Puebla, of which a fickle and chimerical *condotier* of our fratricidal quarrels, was on the point of taking possession, the one who had one day the idea of retaining in the embroidery of his *kepi* of a general, a sparkle of the sun of May 62, and who plotted the attack on a *convoy of money* with the same posture as he did that of designing a political plan. All this was symptomatic of an acute state which it was to transform at all hazard: the conducive means to precipitate the mental evolution of the Mexican people by means of the school, and the economic evolution by means of railways, were, however, never for one moment neglected; but the results came very slowly and the bad elements were agitating.

The army itself, frequently badly retributed, resisting every severe work of reorganization, undermined by the ambition of the leaders, traditionally accustomed to find the premium of promotion in the lottery of *pronunciamientos*, and complicated in the political strifes of the States, where there was always a group ready to pull down by violence the reigning group from power and from the coffers of the exchequer, the very army commenced to be a threat. But this served to prove it, to form it anew and discipline it better; the Government overpowered and severely punished the rebels everywhere and that when the hostility was sometimes formidable and implicated the most important States of the interior, as San Luis, Zacatecas, Jalisco. The repression used to be very bloody, but it induced the social mass to commence to believe that the Government would subdue every revolt; it was an expectation.

But the electoral period came to pass in full work of reconstitution in the most delicate and difficult part of a very laborious task; neither in the House nor in the press, nor in the opinion did a candidate appear capable of counterpoising Juárez; Lerdo, in spite of the great prestige of his intelligence and of the group of important men surrounding him, was not popular and could not aspire to the supreme magistracy without Juárez's support; general Porfirio Díaz, who with his unstained and glorious laurels

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had passed from victory to retirement, was the centre of the vehement, enraged and displeased military element, excluded from the estimates or excommunicated from public life; his influence, his integrity, his honesty have transformed him from a military to a political leader; he was dreaded and popular as all military men always are when they are believed to be able to undertake a great enterprise and to triumph; but there was a great distrust in his aptitudes as a statesman and his own popularity was not transferred to his civil friends, who all marked him out, and to whom he appeared irremediably subjected.

The shortness of the presidential period, copied from the constitution of the United States, a people in which the factors of stability had an incalculable power, condemned us either to small and fragmentary administrative work, or to periodically renewing with re-elections the argument of violation of suffrage, rather ridiculous in a country where the greater majority did not vote, but which had to produce a great effect, because precisely on account of our habits and our character, it will perhaps always be a legally irrefutable argument. However will an administrator try to get himself re-elected, who has not clandestinely violated the public vote? And as the violations of suffrage in latin countries, though they may be sanctioned by the tribunal of constitutional power destined for the purpose, they have not by inference, as in anglo-saxon countries, a convocation for the new electoral struggle, but an armed protest and revolt, it was clear, that the decision of Juárez to let himself be re-elected (a decision rightly conjectured, because to the contrary, anarchy would have been irremediable) would be the preface to civil war.

The attitude of general Díaz, the rupture between Juárez and Lerdo, a thing held for impossible, as these men seemed to be purposely of the same mind, and in consequence of this, the formation of a parliamentary opposition approaching the majority, kept up by the press with shameful ability, passion and an excess of language, showed the importance of the crisis very clearly. The President, firm in his purpose, resolved to face all; stimulated by a perfectly natural ambition to keep his power, of which he thought of being able to make good use in favour of the consolidation of the institutions and peace, certainly at the expense of a civil war, which, we repeat, he considered as a supreme proof of the stronghold of the central power; convinced that in renouncing the candidature, perhaps the only mode of avoiding re-election, would seem to be a retraction of his aims or a desertion of his duties when really the other candidatures could only aspire to triumph through the weight of the group addicted to Juárez and juxtaposed to them, assumed his already classic self-possession, in the face of the violent tempest that threatened; the trumpet, which the hurricanes make vibrate, but which do not come up to make any effect, resounded again.

The tempest came furiously, without doubt greater than it was thought; on the eve of the electoral period, a tumultuous military hostility made itself owner of one of the most important ports of the Gulf; the Government passed over the resistance of the parliamentary league to concede it extraordinary faculties and drowned the rising in blood. The elections took place; the people socially considered, abstained from it, as a rule, and obeyed the political committees, like a flock of sheep, to go to the urns; the political country interested in the great battle of the budget, showed unusual activity, but the elements of sedition and revolt complicated all with its fermenting blood and desolation. The unfailing appeal to revolution was proclaimed in the House by the voice of eloquent orators in the manner of great days of home conflicts; even in the offices of some of the governors. The middle class of some of the capitals, to which Juárez was intensely antipathic, representing the Reform and the tragic end of the Empire, or which, among its reflective members, looked upon the civil war with incertitude and horror, was secretly hostile; this was very serious but it was to a certain point compensated by the devotion and loyalty of almost the whole bureaucratic element, which, through interest and fear of the enormous crowd of despoilers that served in the ranks of the opponents, or through a loyal attachment to the President, in spite of the frequent stoppage of the salaries, luckily did not carry this time the terrible work of separation and dissolution to extremes which works at the foundations of every insolvent government. Behind, as if to form the back curtain of this scene on which the first episode of this fratricide drama anxiously began to unroll itself, the old traditional caciques, where the power of the Government has not yet been able to



get to, declared themselves neutral, but the old caciques of the mountains of Nayarit, Guerrero, Querétaro, Tamaulipas, Puebla, really served as a support to the revolt, like enormous granite obelisks besmeared with blood, that reminded one of the stones of sacrifices...

The result of the election, in which the official element took a barefaced part, was unavoidable; President Juárez obtained an absolute majority, Díaz and Lerdo divided the suffrage with him in distinct proportions. The announcement was not yet made, when a riot broke out in Mexico itself, which, instead of being combined without any reflection, had been led by a moderately thoughtful head, would have had decisive and terrible consequences. Fortunately, the rioters did not know anything of organization and the repression was fulminatory. In short, all was a very sad forerunner of the bloody struggle that was announced.

After the election, the insurrection of all the discontented military and political elements took fearful proportions; the whole mountain chain from Oaxaca to the Northern frontier went on the war path, all obeyed a preconceived plan; many of the most conspicuous men of the war of Intervention jumped in the palestra, and not without vacillation and discord, did the native State of Juárez see in its very midst the formation of the principal nucleus of armed protest. Just like Oaxaca, general Díaz vacillated much in putting his moral support on the scale of his fellow-citizens, only inferior to that of Juárez, and the immaculate prestige of his life as a soldier and patriot, at the service of the revolt: he believed, without doubt, that the country was in need of a thorough reform which could only be obtained by force, his disenchantment, his bitter grudge against the suspicious cabinet of Juárez, that had coldly and indefinitely closed the door to the promotion to which any one who had, like he, lent his services, had a right, the perpetual suggestion of ambitions and unextinguishable rancors which surrounded it tightly, dragging it to irreparable compromises, probably all constituted the original element of his decision, which, once taken, was irrevocable. In his conscience as a republican and as a man of a governing spirit, this idea took hold of him since then with a painful and persistent tenacity, which then might have seemed delirium, but which we now very well see that it was not so: «I can only compensate the immense injury I am doing to my country by throwing it into a civil war, putting it at some future time in a state which may definitely make civil war impossible.»

This was carried on very vigorously; a red net round the great military centres could mark on the map of the Republic the itinerary of the revolt, cleverly chosen by the Government; every where the resistance was disorganized, cut down, subdued. In the middle of 1872 only patches of the storm remained entangled on the tops of the farthest ridge of mountains: the revolution, mortally wounded and fugitive, was seeking a refuge but no supplies to support new attacks.

The authority and moral force of the Government had recovered new energy in the strife: to oblige the political country, brought to its senses by perpetual revolt, to embrace peace at all hazard, to drown highway robbery and insecurity in blood, to push forward the great material improvement on which the others depended, to enter into diplomatic relations with European nations in order to give support and security to international commerce, to study all the great practical solutions possible of our economic state: colonization, systematic irrigation of the agricultural country, free trade in the interior, and to unite with this the steady advance in the reorganization of our financial regulation; to increase the elements of education in order to convert the native and the interior mestee to social forces, such was the peace programme recovered with so much bloodshed. But for all that Juárez did not neglect the political improvement: his two final aims, eager, persistent and converted in iron by his will, were the creation of a Senate to counter-balance the legislative action, without any equivalence in our fundamental law, and the constitutionalization of the principles of the Reform, to make out of this the normal rule of our political and social life...

In the first stages of this huge programme, the new task was maimed by the treacherous surprise of death... It was a great misfortune... There were endless elements in his work which he was anxious to change from passive into active; he obtained much and would have obtained more; when Juárez died,

a gust of clemency and concord dried already all the battle-fields, to old ones, the recent ones... They were the violent gusts of wind, the harbingers of spring, of regeneration; the new Era commenced with it, the present Era; under its auspices, the Republic was quite aware of the necessity to transform the revolution into evolution, the effort made was perceptible. Hidalgo and Juárez are the highest and the greatest military pillars of our history; their tombs are alters belonging to the nation...

The death of Juárez, which, on the whole, in our history may be considered as a national calamity, seemed beneficial at the time it occurred, because it disarmed the civil war *incontinenti*.

In the middle of peace vehemently desired by every one, ascended to the interim presidency the president of the Supreme Federal Court; this very citizen was soon afterwards elected constitutional President of the Republic without any opponent nor obstacle. The quiet and normal change of the Government, the definite end of the military drama and the absolute confidence of all in the superior talent of Mr. Lerdo de Tejada were the principal factors of a calm condition of affairs in the extreme, the first one that appeared without any clouds since the time in which President Victoria inaugurated his constitutional period. It was nearly half a century ago that such a state of things were seen in the country.

The election was unanimous; the people-elect, not the analphabetic, whom the agents of the authority draw to the primary election or supplant him in it, but the group of secondary electors, whatever their origin may be, is very considerable; he can write, he is personally represented, he uses to be in contact with the strong local feelings and necessities and sometimes with the general politics; that people, where the generic elements of national democracy reside more or less latent, has been perfectly in harmony with the opinion. Hence a feeling of rest, quietness and a plainly perceptible well-being in the whole social organism; hence, not only a hope, i.e. a specie of inactive desire, but an aspiration which is the desire united to the effort, an immense aspiration, not only to peace but a guarantee of that peace by means of radical changes in the economical conditions of the country; both these things do not constitute a vicious circle in the national conscience but an interdependency of necessary components which act alternatively as the cause and effect.

The new President saw his mission clearly, and when he inaugurated his government with the work that had been one of the great desires of Juárez, the railway line between Mexico and Veracruz, every one thought that the economical transformation had passed from the long and laborious proem to its first chapter. The great designs of the presidential programme were well drawn a few months afterwards, the most patriotic of which were: to incorporate the Reform with the Constitution and to give to the latter greater elements of preservation and stability; to integrate the national territory, actually disjointed on account of the existence of caciques living apart from the law; to confide the immense task of the ways of communication in the interior of the Republic to European and National capital combined, without which the consequences of opening the Veracruz line could not be general. All this was very serious. The liberal opinion and that of the reform party, armed with its reasonings, exaltations and eagerness, as in the days of epic strife, put itself entirely on the side of the President. The clerical press, led by some of its most seasoned veterans, gave a stamp to the battle with the irreverent and cruelly sarcastic accent of its passionate resistance. It seemed the eve of a new religious war.

The results were foreseen by the President with shrewd intelligence and carried out with quiet firmness so as to give its definite character to the legal conquest, to mark well its signification: converted into clear and precise formulas, which were known as *the liberal dogmas*; the separation of the Church and the State; the suppression of the religious communities as absolutely illegal associations; to prohibit all corporations from acquiring landed properties, and the consequences of all this in the civil state of persons, in the external manifestations of worship, formed the collection of laws of the new Mexican national society. The discussion of those laws, their promulgation, produced a temerous shake to all consciences.

That shaking was not a *commotion*, it was a social *emotion*; the Church inconsiderately emitted its darts, because no one like she has perhaps taken moral and material advantage of the situation created by the Reform, but inspired by the narrow-minded criterion of Pius IX, now as before, though with courtesy and tractableness peculiar to the then Mexican Primate, and all the feminine element of society, that had applauded at the advent of Mr. Lerdo the ruling of *the decent class of people*, turned their back to the President and commenced that deaf war of drawing-rooms and kitchens, which attack and mould the most intimate administrative springs with implacable tenacity. That which was called, we do not know why, the expulsion of the *Sisters of Charity* and the expulsion of some members of the Company of Jesus, put the stamp to this profound domestic unhappiness, placing commiseration and tenderness at the side of the fugitives.

An attempt to civil war, under a religious pretext, organized in Michoacan with rural elements of a very low stamp, stained the State with blood and it seemed as if it were going to be incoercible, converting that region, the cradle of eminent reformists, in a Mexican *Vendée*. It did not come to that, and in promptly isolating the focus of the revolt, the conflagration could be extinguished.

The danger of that state of things was psychologic, the very Mr. Lerdo was in it; it was an intellectual defect proper to extraordinary talents, as his undoubtedly was: he thought that he would not want any body for the action; all men were equal to him, for him all were easily manageable instruments with the attraction of interest; he did not foresee the case that precisely the interest would turn their impulse resistant; he did not think of wanting council, he did not deliberate, he made his inquiries carelessly and decided many times without sufficient elements. Pride, the factor of the great isolations, was not blinded in the President by one of those energetic wills that overpower and impose themselves on all, and this defect of character complicated itself with a certain tendency to neglect the study of the most important questions, to discharge his duty in a sort of perpetual conversation in which he confused the mind of his interlocutors with his penetration and genius, and confounded them with his fatalistic laziness to resolve matters and with his incurable scepticism. Of a deeply rooted conservative and authoritative temperament, ironically foreign to all believe, though he had religion of the greatness of the country, which he considered to a good part of it to be his work, President Lerdo was a great man, capable of doing excellent things approaching a governor of a sovereign character, incapable of compounding with liberty through disregard to men.

In two quick years, 74 and 75, he passed from prestige to no influence, from popularity without any perceptible shadow to an impopularity which finally could be called absolute. Eminently isolated with much more self-love than an ambition to power, he did not mind losing his old friends in whose administrative gifts he had no confidence whatever and who seemed to him to ostentate a right of dividing with him a power which he clearly did not owe to them, and in the cabinet he supported the friends of Juárez, so as not to be obliged to give a place to his, but Juárez's friends, however, did not have a closer connection with him than that of interest in its most fragile form.

Following the programme of the great President, who did not neglect by any legal means to fortify in the States the action of the central power, he adopted with laudable earnestness and obtained the constitutional reform which gave to the representation of confederate entities a character of supreme importance in the national representation: the foundation of a *Senate*, in which the supporters of the government saw the means of strengthening the power to avoid that the interior quarrels of the States might convert themselves in general conflagrations more than a counterpoise to the absorbent tendencies of the popular House. Long before, the crusade against the caciques of the mountain regions, which had to be very slow in its effects, but indispensable, and not only to national cohesion but to the glory of our dignity, had commenced in Jalisco and Tepic with splendid success, exterminating the chieftain Lozada, a barbarous patriarch of mountain tribes organized in the form of a primitive government.

All seemed to go according to Mr. Lerdo's wishes, if the longing desire to maintain unpopular governors in the States or impose upon them to make an ostentation of the federal force, had not soon produced a

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particular situation in which the vague protest of an indefinable but deep public uneasiness was shaped, and the violent antipathy which the every day more numerous group of society inspired: not the man but the governing individual. From this sentiment, which in the opposition press found a very popular echo, issued a weekly paper of caricatures resolved to implacably ridicule the members of the Government, which it succeeded in doing by connecting the incomparable humoristic talent of general Riva Palacio with the diabolically mischievous pencil of Villasana.

That immense and widely spread hostility did not crystalize itself in bodies of invincible resistance until the Supreme Court of Justice commenced to speak. The most conspicuous of Juárez's ministers, after Mr. Lerdo, had taken charge of the direction of that body, at the same time judicial and political, according to the Constitution. An ardent republican of stoic temperament, a proclaimer and scrupulous observer of strict duty, possessor of a vast intelligence nourished by a marvellous philosophical and literary learning, the licenciate Iglesias rose to the presidency of the Court, which was at the same time the vice-presidency of the Republic, resolved to ease the every day less fortunate administrative work of President Lerdo, to whom he was an excellent friend, as far as his functions would allow him to be, as long as the unpassable granit wall of his conscience did not intercept it.

And it happened that the errors of the governors of the States obliged the Court to interfere by means of the constitutional practices of the recourse to protection in local politics; and it also happened, that in the sudden changes those tremendous juridical struggles, which excited the passion of the country in the extreme, the majority of the Supreme tribunal defined the famous theory of *cognizance of origin*, i.e. the one of the powers of the Court authorized by the text of article 16 of the fundamental law, in order to investigate whether the titles of any authority, against which the recourse to protection was sanctioned, were legitimate, for without that legitimacy the cognizance was originally void. By this theory, which is not our purpose to analyze, the character of the Court took such importance, that one might say that it constituted itself in an infallible arbitrator (this word, juridically taken, is equivalent to without appeal) of the policy of the country. Mr. Lerdo resisted without any notable success this increase of powers which really destroyed the balance of the powers; but the Court remained firm, guided by its president. When by a mere question of a local matter the movement of Tuxtepec broke out at Oaxaca; the country supported this opinion by an immense majority: Mr. Lerdo could not continue in power.

Through pride, through contempt for those who believed themselves to be interpreters of the opinion, through re-action against a state of encouragement which had generalized itself and which he believed to be supremely unjust, because it denied him the right and aptitude to govern a people to whom he believed to have rendered undeniable services, the President admitted his candidature for a new period, and then the cry of *no-re-election*, raised at the beginning of the year 76 in the State of Oaxaca, rebounded in every corner of the Republic; the friends of the President, in secret ostensibly his enemies, all were agreed in the revolutionary *desideratum*.

A vigorous policy of material improvements would have conjured the storm, but the main portion, whether explorer of politics or not, boasted to be ignorant of it, had tepidly seconded the idea which the President sincerely believed to be always patriotic, but which was not realizable: that of engaging European capital, added to national capital as far as possible, in the great material works which had to transform our economic existence, the real cause of the periodicity of civil wars. By this the mass would infer, that on account of mistrust of the Americans, the material improvements would be indefinitely put off and that the danger from which it fled, would finish by taking tremendous proportions when the time had gone to conjure it.

The revolt, known as the *Revolution of Tuxtepec*, could not be subdued and the government only succeeded in isolating it to Oaxaca, but not without bloody scenes. It was known that the minister of war had friends among the rebels which made his action of repressing the revolt suspicious, perhaps disloyal. The truth is, that the minister was more convinced than any one, that re-election was impossible.



When, with the occupation of Matamoros, general Diaz entered on the scene, the revolt took the character of an insurrection of the country; it was more or less ostensibly seconded by some governors, favoured by large private undertakings, applauded by infinite devotees of *la bola*, and had the sympathy of society. However, the already excellent constitution of the federal army overpowered all temporarily, and the insurrection completely subdued in the North and the Interior, found itself in the mountain ridges of Puebla, Veracruz and Oaxaca. The government could converge almost the whole army on it. But the country kept on being agitated and impatient; though the conflagration was mastered, it seemed to break out soon again in any part. Something extraordinary and decisive was expected.

The President of the Supreme Court of Justice, after a long deliberation with his conscience as a man, magistrate and political functionary, decided to ignore the already verified presidential election, and having been made exclusively by the bureaucratic element, resulted in favour of Mr. Lerdo when a good part of the voting States were officially in a state of siege, i.e. legally tutored by the military authority and incapacitated from freely performing their political functions. That refusal to take any notice of the election, though it was extraconstitutional, came in a direct way from the double function of magistrate and vice-president in both of which Mr. Iglesias was invested, and was in no way a rebellion against law but a measure of public salvation in a perfectly anarchic state; the sincere functionary thought it necessary to unite all elements of resistance and respect around his attitude which in an other manner would have ended obscure and ridiculously in a prison. The Vice-president accepted the support of the Government and State of Guanajuato, he went there, and when the re-election was proclaimed in Mexico, he sent out a proclamation assuming power, the legal titles to which the President and the House of Representatives had abandoned by infringing the Constitution. This was unusual, singular in the highest degree: and responded with one deed,—the work of a magistrate who did not lose his investiture through it,—to an other deed authorized by an other magistrate who could only renew his functions within the Constitution out of which he had gone. At the end of the legal period of President Lerdo, only an intact title, that of the Vice-President of the Republic, could remain of the executive power.

The attitude of the president of the Court produced an immense confusion out of which issued the triumph of the Revolution. This was for Mr. Iglesias a certainty, he never had any doubt of it and he knew and said, that he did not count on the personal success, on the contrary he had a presentiment that his work would be absolutely adverse to his interest, that his attitude would be furiously and with indefensible passion discussed, and he himself said, that a calvary had begun for him, it was incapable to make him desist from a purpose. He tried putting a bridge to the revolution in order to make it constitutional, but this was a vain effort; the revolution was successful thanks to the attitude of Mr. Iglesias who paralyzed the action of the central Government freeing himself afterwards from his involuntary but formidable collaborator. It was an other state of things, an other order of ideas.

From the time of the appearance made by Mr. Iglesias in Guanajuato, all went on very rapidly. The army of the Interior, destined to re-enforce that which had been called to exterminate the rebellion in the mountains, stopped round about the new State in arms, dwindling down in all its vanguards as they joined the forces of Guanajuato. And not only did that fraction of the army waver, but the whole of it, confounded by the proclamation of Salamanca and undermined by public opinion; the greater part of its commanders resolved to cluster round the Vice-president when once the last day of the legal period of Mr. Lerdo had passed.

It was in vain that it was tried to conjure the danger with the changes in the cabinet and the promotion of very energetic measures in Mexico. The two great armed portions of the revolution joined in the fields of Tecuac, above the government troops, destroyed in bloody pieces, and they soon made themselves masters of the Capital, whence Mr. Lerdo left for abroad. The victorious march of the revolutionary army, headed by general Diaz, was then continuous: it seemed to tarry a moment before the evident right of the Vice-president but dictating conditions which the stoic firmness of Mr. Iglesias could not accept; it continued soon afterwards its march as far as the Pacific, driving everything before it. At the break of the year 1877, the tuxtepecan revolution was master of the country.

VOLUME SECOND

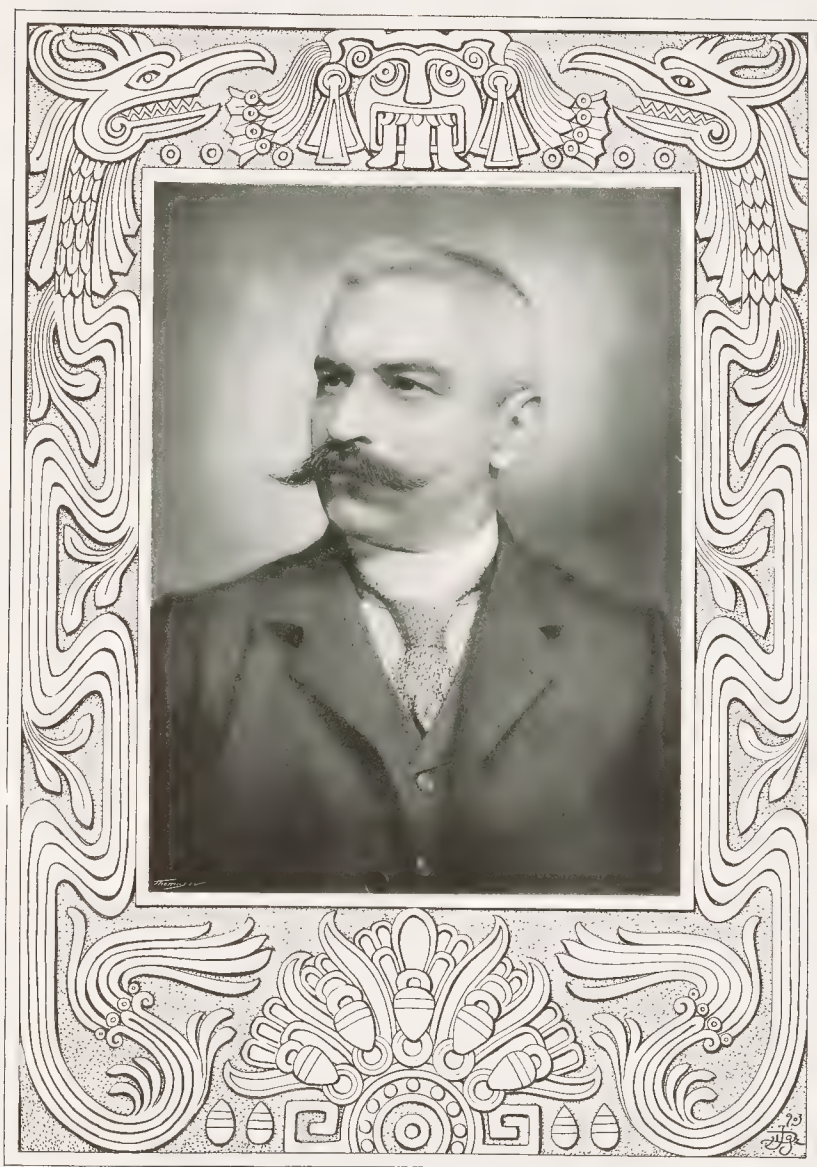
Conclusion

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1871







## III

The country was in disorder; the civil war had heaped up *débris* and miseries in every part among pools of blood; everything had fallen to pieces; below, among the rural folk, *la leva*, one of the endemic diseases of Mexican labour (the others are alcohol (drunkenness) and ignorance) had increased, which the country people scattered in the army, like food for cannon; in the guerrilla, like an element of returning to the life of a horde of savages, and in the gang of thieves, the nomade school of all anti-social vices. The town people or those in factories, stopped by fear of war or the uselessness of producing for overstocked markets, or in workshops without any occupation, of towns, gave itself up to idleness or went for *la bola* or let itself to be led by the cord to the barracks. The *bourgeoisie*, extenuated without pity, be it by local rulers, be it by the struggling governments, hid their money, retracted their sympathies; it had seen with pleasure the fall of the central government (with the exception in two or three States in which lerdism meant the emancipation of hated local tyranny); but it had been indifferent to the attempt of Mr. Iglesias, who seemed to be a constitutional subtlety with all the appearances of a proclamation of lawyers and learned men, and it felt itself assailed with suspicion and profound fears before that heterogeneous mass of craving appetites, of implacable resentment and of not confessable interests, entitled by the Republic with the name of *tsatepecan revolution*, in which all the elements of disorder removed by the civil war had converted themselves. It had confidence in the head of the revolution, it believed in his sincerity but it believed it to be, then as before, helplessly subject to the most lively but very narrow-minded ambitions of a group of his concellers; and if administrative gifts were conceded to him, political gifts persited in denying them to him; it was said among towns-folk, in our familiar mode of condensing opinions, that this man *will not be able to draw the ox out of the ditch*.

Such was society. The official factors were very bad: the federal army, disorderly, perplexed and discontented with itself, had divided itself among the two banners, calling themselves constitutional, but the majority of which had remained true to their duty, entered now in bulk in the army of the victorious revolution and felt itself humiliated, compressed, impatient, soon to shake off what it thought to be a chain and a yoke; its principal commanders had either abandoned it or looked disdainfully upon the confused multitude which surrounded them with a secret desire of retaliation. The revolutionary confusion prepared itself to strip the legal army of all its grades and prerogatives and to throw it disarmed, destitute and punished into the street, exacting this war-booty from the head of the revolution.

As regards the bureaucratic phalanx, scantily paid when it did receive its salary, hardly attended to its duty; it relentlessly censured the habits and ignorance of the conquerors, organized the great conspiracy, beneath unfaithful servants, or deserted; the commanders, extemporized by the ephemeral government, that shot out of the revolt, publicly solicited situations for administrative posts, receiving in return derisive refusals.

The ups and downs and the final part of the civil war had made a very bad impression abroad. It had been proved that Mexico was an ungovernable country and that the United States ought to put a stop to so many calamities, seeing that Europe was impotent to renew the attempt. The sociologists took us for an example of organic incapacity of the national groups formed in America out of the spoiliations of the colonial dominion of Spain, and the minister of the United States assumed an attitude of a haughty and discontented tutor before the revolutionary executive.

The Constitution had been buried beneath the debris of legality: the reforms which the revolution had proclaimed were purely jacobinical: neither Senate nor Re-election, that is to say, omnipotency of the popular House, debilitation of the Executive Power on account of the incessant forced renewal of its president. There remained the Court to protect the individual right. But when has a court of justice served as a positive paling to despotism of the political power, if that court is also subjected to the popular election, perpetually supplanted in Mexico by the official conjurers?

And to crown the difficulties, the press either made a cruel opposition or disputed and incessantly

lectured the Government when it was addicted to it, converging both to the exaction of the strict fulfilment of the promises of the revolutionary plans, amongst which two excelled like supreme aspirations of the country: the respect to free suffrage, i.e. the abandonment of the local and general elections to the governors and their agents, and the abolition of the stamp-duty, a popular promise, the fulfilment of which would be equal to financial suicide of the administration.

The real wish of the country, the rumour that came out of all the cracks of that enormous heap of legal, political and social ruins, the infinite eagerness of the Mexicans that showed itself by all the mediums of public and private expression from one extreme of the Republic to an other, in the workshop, in the factory, at the farm, at school, in the temple, was that of *peace*. That feeling was really the one that disarmed the resistance of the Vice-president of the Republic, in spite of its constitutional authority. No body liked the continuation of the war, with the exception of those who only could live from disorder and confusion, of those unqualified for any normal situation. All was sacrificed for peace: the Constitution, the political ambitions, all, peace above all. There was seldom seen in the history of a nation a closer, more unanimous and more resolute aspiration.

On that well perceived and well analyzed opinion, the head of the triumphant revolution, founded his authority; that opinion coincided with such a far-reaching and firm proposal as that of the national aspiration: viz: to make a general revolt impossible. With the consequence of this proposal, which he considered as a service and a supreme duty at the same time, as we already said before, he thought of redeeming before history the terrible responsibility contracted in two tremendous fratricide struggles: the blood of his brethren would be forgiven to him if he were to make the tree of a definite peace to germinate in and from it.

To involve all the superior and inferior interests in that work, which seemed to be an unrealizable dream, was the way to succeed; the leader thought that faith in him was necessary and that he should be feared.

Faith and fear, two sentiments, for being strongly human, have been the foundation of every religion, they had to be the source of the new policy. Without wasting a day nor to lose an opportunity, President Diaz directed his steps towards that point during twenty five years; he founded the political religion of peace.

The return to a normal system seemed impossible immediately after the disappearance of the legal state of affairs; we repeat that all confided in the energy, influence and rectitude of the triumphant chief: nobody took him for having real political and governing aptitudes; the movement of three of his counsellors, the three oracles of the new government (Messrs. Vallarta, Benitez and Tagle) were indeed followed with interest; much talent, but also much passion, was bestowed on them. The return to constitutional order was the first political step taken; for that the re-constitution of the legal organs of the government was necessary. Only one power had been partially respected, the Supreme Court of Justice; as for the others the renovation was necessary.

If an election made under the auspices of the revolutionary authorities, notwithstanding the actual abstention of the political country, did not give the Leader legitimacy, gave him nevertheless legality; he was made President of the Republic; his action was more unrestrained and firmer. But at the same time the danger was clearly seen; the partisans of the fallen president, making use of the prestige of respected names in the army, promoted conspirations without and within the country, which every-where emitted sparks of an attempt to conflagration, for which an enormous amount of combustible was accumulated in all parts. The exterior threatening attitude on the American frontier was neutralized by force of good luck: all was condensed within, and being on the point of breaking out into a terrible conflagration, was put out in blood: the disaster was conjured. The emotion was extraordinary: there were protests and affliction; many innocent persons seemed to be sacrificed, but the attitude of the President took every one by surprise; the *fear*, a great government spring, but unjust to confound it with terror, an instrument of pure despotism, generalized itself in the country. Peace was an accomplished fact: would it be lasting?

As we have already said, there are no secret classes of society in this country, because those who call themselves so, are only separated from each other by limited motives of money and *good breeding*; there is only one popular class here and that is the middle class; it absorbs all the active elements of the inferior groups. In these we understand, what may be called, an intellectual populace. This populace was formed since the definite triumph of the Reform: with a good number of descendants of the old creole families that have not been mentally disamortized but live in the past and move with a surprising lenthitude towards the actual world; and secondly with the absolute analphabets. Both groups are subject to the dominion of superstitions, and the second, besides, to alcohol; but in both, the middle class makes every day proselytes, assimilating itself to some through pretext and to others by means of the school. The division of race, which seems to complicate the classification, is really neutralizing its influence on the delay of the social evolution, because an every day wider sphere of mixed parts has been formed between the conquered race and that of the natives, who, as we constantly affirmed, are the real national family; the dominant middle class has its centre and root in it. It is not superfluous to state, however, that all these considerations on the distribution of the social mass would be totally factitious and would constitute a pack of real sociological errors if they were to be taken in an absolute sense; no, there is a constant filtration among the social separations, a consumptive person would say an osmose; thus, for instance, the *bourgeoisie* has neither succeeded in emancipating itself from alcohol nor from superstition. It is these socio-pathogenic microbes that pullulate in colonies where the means of cultivation is propitious to them.

This *bourgeoisie* which has absorbed the old oligarchies, the reformistic and the reactionary, the genesis of which we have studied in an other part, this *bourgeoisie* was aware of its existence, it understood how far it had to go and by what way in order to become master over itself on the day on which it felt itself governed by a distinctive mark that would put all on a level to get to one result: peace. The army, the clergy, reactionary relics; liberals, reformists, sociologists, jacobines, and, under social aspect, capitalists and workmen, as much of an intellectual as of an economical nature, formed the nucleous of a party which, as it was natural and will always happen so, took for mutual denominator a name, a personage: Porfirio Diaz. The Mexican *bourgeoisie*, under its actual aspect, is the work of this republic, because it determined the escencial condition of its organization: a resolute government that does not allow itself to be interfered with, is entirely the creation of general Diaz; the immense authority of this governor, that authority, master of his actions, not only politically but also socially which permitted him to develop and will permit him to make his work secure, not against the crisis but perhaps against misfortunes, is the work of the Mexican *bourgeoisie*.

Never has peace revealed the character of a primordial national necessity with greater clearness than the following day of the triumph of the *huasteco* revolt. Hence the reason why the industrial development of the United States, which twenty years ago was already enormous, claimed as a binding condition the concomitant development of the railway system, at the peril of paralyzing it. The *go ahead* American would not consent to this, and by a complexity of economical phenomena, not amiss to analyze here, necessarily entered in the calculation of the companies of the great systems of communication which had come near our frontiers, to complete them in Mexico, which, from the point of view of communications, was considered as forming a sole region with the south east of the United States. The financial result of this inclusion of our country in the immense American railway network, was intrusted to the hope of domineering industrially our markets.

This huge North-American constraint might be realized, either in declaring the country ungovernable and unable of being pacified and penetrating in it under the excuse of protection in order to realize the designs of the railway-promoters, or pacifically and normally if the conviction were to take root, that there existed a government in Mexico with which one could treat and traffic, the power of which could be made to be felt in the form of a guarantee to workmen and to the companies in the whole country



and the viability of which would be sufficient to take the word of various generations. Therefore, the civil war was from that moment not only a serious, the most serious of national evils, but a danger, the greatest and nearest of international dangers. Mr. Lerdo tried to conjure it in having recourse to the concurrence of European capital; it was useless, it resulted to be useless; the European capital would only come to Mexico after many years, endorsing American enterprise. The political virtue of President Diaz consisted in understanding this situation, and convinced that our history and our social conditions put us in the circumstance of letting ourselves to be harnessed to the formidable *yankee* locomotive and taking the route to the future, preferred to make it under the auspices, vigilance, police and the power of the Mexican government so that we might be free associates bound to order and peace and to make us to be respected and to maintain our complete nationality and to realize the forward movement.

Many of those who have tried to carry out the psychological analysis of President Diaz who, without either being the apocalyptic archangel sketched by Tolstoi nor the tyrant of melodramatic grandeur of the plantastic story of Bunge, is an extraordinary man in the real meaning of the word, find a grave deficiency in his spirit: in the exercise of his will, as we have been taught at school, of his determinations, there is a perceptible logic inversion: the resolution is quick, the deliberation succeeds this first act of will and this interior deliberation is slow and laborious and often diminishes, modifies, nullifies sometimes the first resolution. From the consequences of this conformation of spirit, which is natural perhaps to all the individuals of the mixed family to which the greater part of the Mexicans belong, arise the imputations of machiavelism or political cunning and artifice (to deceive in order to persuade, to divide in order to govern) which they have thrown at him. Much would have to be said, but we will not say it now, on these imputations, which, nothing less than being directly contrary to the qualities which all recognize in the private man, do not signify, as far as truth is concerned, any thing else but reflective resources of defense and reparation respecting exigencies and multifarious solicitations. In fact, through them, the individuals of this Mexican society, which from the idiosyncrasy of the native race, the colonial character and the perpetual anarchy during the periods of revolts, has inherited the suspicion, dissimulation, the immense mistrust with which it looks upon the governing bodies and receives their determinations, put themselves in contact with the power; what we criticize is probably the reflection of ourselves in the one criticized.

Be it as it may, the truth will always be, that the primitive resolution of the revolutionary chief in the matter of the international railways, was prompt and sure, it was not abandoned afterwards, it was the first day what it is now; it was certainly necessary to raise oneself above the affliction of the future with an immensely audacious, clear and calm mind and to have an unbroken faith in the destiny of the country and to ask with a singular moral energy for a source of strength and greatness which appeared to be like the forced route of our economical servitude for having opened our frontiers to the American rail and industry. And at what moments! One of the invincible fears of Mr. Lerdo, justified and rightly rational, was the nursery of very dangerous conflicts with the United States which perhaps would come out of the engagement of paying subventions which the state of our exchequer could never fulfill. Entrusting the certainty of avoiding those conflicts precisely to the economical transformation, for that reason financial, which the country would suffer in consequence of the realization of the projected railways, Mr. Diaz dared to contract national obligations which amounted to many millions of pesos, at a moment when our exchequer was exhausted and no money in the safes to pay the amounts due to the army.

The financial question really threatened to paralyze all the impulse of the President towards the material improvements of a national character; the Northern frontier completely disorganized on account of the complacency or debility of the local authorities towards the kings of smugglers, this took enormous proportions; places in the interior of the Republic were immudated with fraudulently imported mercantile effects and the *krach* of the custom-house revenues had produced a sort of a formidable uneasiness, because it was thought to be irremediable. The political struggle complicated all, not the one that asked for the favour of the electoral country, neither alphabet nor intelligent, that votes in a second degree, but that

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CONCLUSION

**The President of the Republic, general Porphyrius Diaz,  
in his closet**









which disputed the preponderance in the mind of the President, who had already sufficient moral authority that an indication of his should be respected by the electoral colleges. But the presidential term came to an end; general Diaz threw then the crutches of Sixto V away, resolutely broke off with his intimate counselors who intended to force on him a candidate; he chose his own, he put him actually at the head of the army, and in the middle of a situation full of menaces, but not without hopes, he gave over the authority to one of the most audacious, bravest and most loyal of his revolutionary collaborators. The nation was perplexed before the new president. General González was entirely a soldier. Was he a man to govern?

There was great expectation; the new ministry was composed of honest citizens, ex-President Diaz formed part of it; there clearly was a move upward. The great international railway companies seemed to be the seedsmen of *dollars* in the immense furrow that set bounds to the rails from the frontier to the centre of the country; the immediate result consisted in the remunerative work to the Mexican labourer and workman; governed by the fulness of the fiscal coffers, attention was paid to the contented functionaries, to the petted army and to the spirit of enterprise risen to a bright red through the flash of heat patriotism, love to fortune and love for progress which the new ministry of Encouragement, Pacheco, carried in his soul. All kind of schemes were formed under the protection of that singular situation: colonizations, irrigations, canalizations, fantastic interoceanic railways in Tehuantepec, artificial formation of ports that did not exist in the Gulf, sketches of a national navy, to be created at a stroke, and powerful banking institutions in which it seemed that the Mexican capital had to flow in to open the way to industry and commerce in the new period that began to show itself on the horizon. Unfortunately, to the positive fact of the construction of railways, which exacted others and others and an entire network that would cover the national soil in order to be productive, was joined the uncertainty of the climax, being transitory, reached through the American money invested in the constructions, a climax which seemed to be indefinite to some of the financiers. Under the cloak of that deceptive prosperity, disorder and administrative inability made themselves customary; the interest of the country, in the hands of the speculators, was an instrument of personal proficiency; a business giddiness came over many and there was more than one public functionary who realized large fortunes, as if by enchantment, putting their influence and covetousness at the disposal of the merchants.

Nothing of this was unknown to the new President: a man of perfect good sense, incapable of both fear and duplicity, he overpowered all, I do not know what spirit of adventure and conquest he had imbibed in his Spanish blood and which had nourished and cherished in more than twenty years of incessant military strife in which he had shed his blood and showed his bravery. General Gonzalez is in the opinion of the writer an example of ancestry, though all these critics on events of yesterday are revisable: physically and morally, the companions of Cortés, Pizarro and Almagro ought to have been thus. Of a heroic disposition, capable of elevated deeds and of arrogant cupidities, what they conquered was theirs and they stood haughty and furious before the monarch, be it Charles the fifth or Philip the Second, in order to dispute their right and price of their blood. The President thought of having conquered at that price, in the fields of Tecuac, at the post he found himself; it was his and he took advantage of it at his pleasure.

The period of expenses for the railway constructions came to an end, the covenant ceased, then came the scantiness in the exchequer and afterwards its impossibility to pay the most necessary administrative services; the evasions, expedients, the daily recourse to unconfessable manoeuvrings increased; and business, notwithstanding, did not cease. The protest raised by the press, be it reflexible and victorious, or phrenetic and transgressing the bounds beyond all limits of modesty and equity, arose out of the depth of that sort of obstinate honesty and love for justice which constitutes the primitive substance of the Mexican social conscience. It could not be denied; when the electoral period opened, it was no more possible to take measures; a new coin which perhaps had its advantages, was considered to be bad money, and in

a furious popular hostility, that resembled more an examination of papers, a social nausea, was thrown back and made impossible to return; a necessary contract in principle, though censurable in its conditions, but which was a condition *sin qua non* of the re settlement of our exterior credit, *the acknowledgement of the English debt*, was considered as an indomitable attempt; with evident exaggeration it was supposed that fabulous transactions were made at the expense of the agreement, and as it was in the last administrative years of its life, and as the President elect was general Diaz, and every one considered the engagements made broken off and that they could not be made good, as they really could not be made good, a parliamentary opposition sprang up and increased like the sea at the flowing of a hurricane, society whirled boisterously round the parliamentary tribunes, drowned the explanations given by the defenders of the Government with the eloquence of orators which at times was admirable, with the incessant hooting of youthful deviltry which dragged along the scholastic and popular masses and with the noise of the applauses and enthusiastic exclamations of orderly women and men.

In the middle of this lesson given to the government that retired, and to that which came in, showing how quickly the force of public conscience could separate itself and how far the people were still from the political instruction, the new administration of general Diaz commenced, since then indefinitely kept back, more from the national will than by the vote.

Something like a passionate unanimity, the old chief of the revolution had returned to power; the events of the Capital seemed to be a certain indication of the precarious state of peace of the facility with which one might fall in the old track of civil war; the administrative anarchy and financial penury gave to the situation a colour of resemblance to that of the final period of legality of 76, and it seemed to all, that eight years had been lost and that all had to be commenced again; the opinion imposed the power on President Diaz as if it were to exact the carrying out of a duty, the carrying out of a responsibility.

In the enormous political bankruptcy of eighty four, the liabilities were crushing; our credit abroad had to be repaired, without which we would not have been able to find the necessary sums to carry out the great work of the future, making the principal obligations to fall on the future thus favoured, and that work seemed to be impossible in view of the blind unpopularity of recognizing the English debt, the key to that credit; the disorganized Exchequer had to be repaired and it was necessary to commence with a partial suspension of payments; to give an impulse to retribution, to impose respect to the law, to undo certain vague coalitions of local governments, a sure sign of morbose debility in the central authority; it had to give weighty, tangible and constant guarantees to industrial, agricultural, mercantile... work, such were the *liabilities*. In the *assets*, the new administration reckoned the great railways finished and the name of general Diaz. But in order that the President could carry out the heavy task imposed upon him, he needed a maximum amount of authority in his hands, not only of a legal authority but of a *political authority* which would allow him to assume the effective direction of the political parties: legislative bodies and governments of the States; *social authority*, constituting itself into a supreme *justice of peace* of Mexican society with the general assent, a thing that is not ordered but only can flow from the faith of all in the arbitrary rectitude of the citizen to whom the faculty of adjusting the conflicts are confided, and of *moral authority*, that indefinable power, intimately connected to that which is equivalent to what the astronomers call *personal equation*, the mode of being characteristic of an individual who outwardly shows himself by the absolute clearness of home-life (and that of general Diaz has always been brightened by profound and sweet virtues capable of serving as an aim and example) and for the very singular condition of never becoming proud nor haughty in spite of the power, flattery and good fortune; such were the inestimable elements of that moral authority.

With these factors, the work went on but not without serious obstacles; the general exigency in and out of the country, to those that have come in contact with our affairs, to Mexican Bondholders, to the anticipators of the already enormous capital invested in the railways, was clear, urgent and imposing;

the full assurance was exacted that general Diaz should continue his work till it is free from fatal consequences. The re-establishment of the primitive text of the Constitution, first partial and afterwards total and absolute, which indefinitely permitted the *re-election* of the President of the Republic, gave satisfaction to this assurance within that possibly to be foreseen.

With these measures, the programme of the revolution of Tuxtepec was extinguished: its dogmas, which under the appearance of democratic principles envolved the satisfaction of a momentary passion, as all jacobine creeds do, a satisfaction propitious for urging the struggle and to precipitate the triumph, and the absolute ignorance of the normal necessities of the Nation, had killed one by one: it was the negative programme fundamentally composed of three abolitions: the Senate, the Stamp-duty the Re-election; none of them could remain on foot. There had not even stirred up a domineering group of new men, but if so, only by halves: the conquered and the conquerors divided peaceable the motive. There was only one result from that profound and bloody commotion and that was the new situation; but this new situation was a transformation: it was the normal advent of the foreign capital to the exploration of the redeemed wealth of the country; and this was the last of the three great desamortizations of our history, which is not amiss to mention it here: that of Independency, which gave life to our national personality; that of the Reform, which gave life to our social personality, and Peace, which gave life to our international personality; they are the three steps of our total evolution. In order to realize the last one, which gave all its value to the former two, we were in want of a man, a conscience, a will that would unify the moral forces and would transmute them in a normal impulse, and we shall always repeat, as all the countries in the hour of supreme crisis, as the countries of Cromwell and Napoleon, to be sure, but also as the countries of Washington, Lincoln, de Bismark, Cavour and Juarez; this man was President Diaz.

An ambition, it is true, capable of subaltern it to the preservation of power? Posterity will judge. But that power which has been and will be at all times the irresistible magnet, perhaps not of the super-men of thinking but certainly of super-men of action, that power was a *desideratum* of the nation; there is not one citizen in Mexico that denies it nor even doubts it. And that nation which applauds the man *en masse*, has composed the power of this man of a series of delegations, abdications if one likes, extralegal, for they belong to the social order without being solicited by him, but without shunning for a moment this enormous responsibility; and is this dangerous? Terribly dangerous for the future, because it imprints habits contrary to their own government, without which there may be great men but no great nations. But Mexico has confidence in its future, as well as in its star, the President; and it believes, that in having put aside any possible fear of the supreme condition of peace being altered or should disappear, all will come afterwards, it will come at the right time. May it not be mistaken!...

Therefore, without violating one single legal formula, President Diaz was invested with a *vital de facto* magistrature by the will of his fellow-citizens and by the approbation of the foreigner; through an accumulation of circumstances, which we are not allowed to analyze here, it has up to now not been possible for him to set about his programme of transition between one state of things to an other that may be the continuation in a certain order of facts. This investiture, the submission of the people in all its official organs, of society in all its active elements, to the will of the President, may be christened by the name of social dictatorship, of spontaneous caesarism, or anything else; the truth is, that he has extraordinary faculties which do not allow to logically classify it in the classic forms of despotism. It is a personal government which enlarges, defends and strengthens the legal government; it is not a question of a power that sees itself elevated by the growing depression of the country, as the fantasists of Hispano-American sociology seem to affirm, but a power which raised itself in a country which has also proportionally risen, and not only risen in a material but in a moral way, because that phenomenon is born from the national will of getting definitely rid of anarchy. Therefore, if our government is eminently authoritative, it cannot, at the risk of coming to grief, relinquish of being constitutional, and not only was a man charged to make peace and to direct the economical transformation, but also to put it in a



state to neutralize the despotism of the other powers, extinguish the caciques and to disarm the local tyrannies. In order to justify the entire authority of the actual head of the Republic, the difference between that which has been exacted from it and that obtained will have to be applied to it the same as a measure.

In short, the political evolution of Mexico has been sacrificed at the expense of the other phases of its social evolution; in order to prove this clear and inevitable fact, it will be sufficient in saying: that there does not exist a single political party nor a living organized body, not round about a man but round about a programme. The many steps taken in these directions, tarried on getting into contact with the mistrust of the Government and general apathy: they were, therefore, factitious attempts. When the day arrives on which a party is able to keep itself organized, the political evolution would take up its march and the man, more wanted in democracies than in aristocracies, would come soon afterwards; the function would create its medium.

But if we compare the situation of Mexico precisely at the moment in which the parenthesis of its political evolution and the present moment was opened, it will have to be acknowledged, that the transformation has been surprising, in which we have surely to forestall the decision of our descendants. Only for us, having been present at the events and witnessed the change, it has all its value: the pages of the great book, we are to-day closing, show it profusely: it was a dream,—for the realization of which the most optimistic gave it a century,—a peace from ten to twenty years; ours took a little more than a quarter of a century; it was a dream to cover the country with a railway system that would join the ports and the centre with the interior and unite it with the world, that would serve as an immense iron furrow, where foreign capital was thrown like seed, that it might produce abundant harvests of natural wealth; the sudden appearance of a national industry in conditions of a rapid growth was a dream, and all has been realized and all is put in motion, and all is on the move; MEXICO AND ITS SOCIAL EVOLUTION has been written to show it in this light and it has been proved to be so.

The undeniable work of the present administration, however severely it may be judged, does not consist in having made the change, which perhaps a conjuncture of exterior phenomena made indispensable and necessary, but in having admirably known how to make it profitable and having accelerated it conscientiously. Nothing has been more fruitful for the country in this work,—and History will write it in gild letters,—that the close collaboration of the inflexible designs of the President and of the convictions and singular aptitudes of the one who in the steps taken in Mexican Finances represents the vehement desire to apply to the administration the proceedings of science. The organization of our credit, the equilibrium of our estimates, the liberty of our interior commerce and the concurrent progress made in our public revenues, is due to that collaboration. To it will be due, perhaps already are due the results of the disturbing phenomenon of the depreciation of silver, which was the richest of our consumable and exportable products, a phenomenon which certainly on one side has been a supremely energetic factor in our industrial life on account of the facility of communications and exploration, but on the other side threatened to isolate, to circumscribe and to suffocate our mercantile evolution, which may be neutralized and by chance may turn in our favour. The *credit side* is, therefore, imponderable in the balance to be made of the profits and losses at the end of the present Era.

We repeat, that there exists a Mexican social evolution; our progress, composed of exterior elements reveals, in analyzing it, a re-action of the social element on those elements in order to assimilate them, to take advantage of them in the development and intensity of life. Thus, our national personality, in putting itself in direct communication with the world, has strengthened itself, it has grown. That evolution is no doubt beginning: in comparison to our former state to the last third of the last century, the road over which we have gone is immense; and even in comparison to the road over which our neighbours have gone in the same lapse of time, and that ought to be in a manly manner our aim and perpetual reference, without any illusions, which would be mortal, but without dismay, which would be cowardly, our progress has been insignificant.

It remains for us to return life to the soil, the mother of the strong races who have known how to fertilize it, by means of irrigation; it remains for us to attract the immigrant of European blood more assuredly by this than by any other means, which is the only one with whom we ought to procure to cross our native groups, if we do not wish to pass from the means of civilization in which our nationality has grown, to other inferior means, which would not be an evolution but a retrogression. It remains for us to produce a complete intellectual change in the native by means of the educational school. This is the supreme work which presents itself at the same time with urgent and huge letters from the Mexican point of view. A huge and rapid work for either to accomplish it or death.

To convert the native into a social value (it is only through our apathy that he is not so), to convert him into the principal colonist of an intensively cultivated land; to identify his mental condition with ours by means of unity of language, aspirations, love and hatred, mental and moral criterion; to kindle before him the divine ideal of one country for all, of a great and happy country; in fact to create the national soul, this is the aim assigned to the effort to be made for the future, that is the programme of national education. All that which co-operates to realize it, and that alone, is patriotic; every obstacle which tends to delay or to impair it, is almost treason, it is a bad deed, it is the enemy.

The enemy is familiar; it is probable to pass our frontiers from the native tongue to the foreign one, obstructing the way to the national language; it is superstition which the laic school, with its humane and scientific spirit can combat with success; it is the civic irreligionsness of the wicked, abusing the inextirpable religious sentiment of the Mexicans, that persists in opposing the principles which are the basis of our modern life, those that have been the religious basis of our moral being; it is scepticism of those who condemn us to death, in doubting that we may become apt for liberty.

Thus has our duty be defined; to educate, means to fortify; liberty, the marrow of lions, has only been individually and collectively the patrimony of the strong; the weak have never been free. The whole Mexican social evolution will have been abortive and useless if it does not get to that total end: Liberty.

Justus Sierra.

THE END



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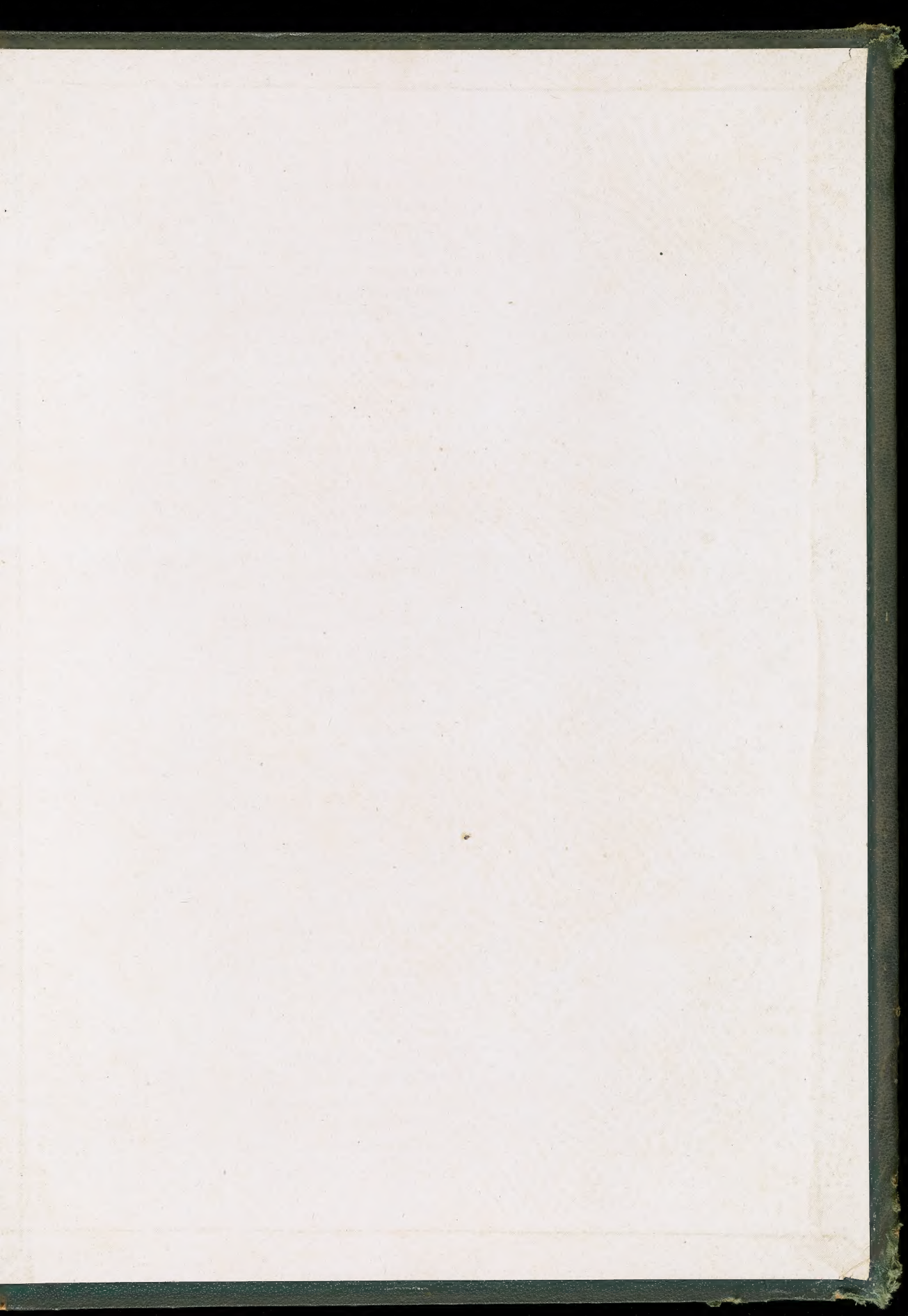








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